The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees

VOL. XLI. CHICAGO, ILLINOIS, AUGUST 8, 1903. No. 6.

Address.

THE ESSENTIAL PRINCIPLES OF INFANT FEEDING AND THE MODERN METHODS OF APPLYING THEM.*

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The question of infant feeding is a very broad one; too broad, in fact, to be covered in one evening, or in one address.

Although we usually consider that human beings are infants during the first two years of life, yet, so far as their feeding is concerned, it is the first twelve months of their existence in which the greatest difficulties arise in the proper adaptation of their food to their individual digestion, and to the requirements of their individual nutrition.

An address on infant feeding, therefore, should naturally be devoted to the feeding of the first twelve months of life. It has for many years been an accepted fact the world over that the mortality of infants who are fed on good human milk, obtained from their mothers or other healthy women, is lower than that achieved by any other method of feeding. It should, however, at once be insisted on that experience has also shown that it is good human breast milk, and good according to the modern sense of the word, which has produced these results. Poor milk from human beings, poor because they contain inadequate percentages of the various elements of the milk, such as the fat, sugar and proteids, or because of the improper combination of these elements, can, as it has often been proved, produce diseases, especially those which are connected closely with nutrition. The most common of these diseases are rhachitis, infantile atrophy, infantile scorbutus and the various gastro-enteric disturbances, which not only lead to malnutrition, but also render the infant vulnerable to specific diseases caused by specific organisms.

Since there are many causes and reasons through which the human infant may at any time, and in any place, be deprived of its natural food obtained from the human breast, it is evident that some other food must be substituted in order that the infant should live. It is well, therefore, when any food is to be substituted, excepting that which Nature has provided in the human breast, that we should speak of it as a substitute food. We should, however, admit that the great majority of cases of substitute feeding merely represents failures of breast feeding either because the mother will not or can not nurse her infant. Whatever the cause, the great majority of these failures of breast feeding could have been avoided and the infant fed on a substitute food successfully if the modern methods, representing the principles of percentage feeding, could have been early instituted and intelligently followed.

The substitute feeding of infants is not one of choice, but of necessity. The question, then, which must continually arise is: What materials and what methods have been found by the latest practical and scientific investigations to be best adapted to the infant when good breast milk can not be obtained?

Allowing that good human breast milk is the best food for infants in the first year of life, what I am about to say is directed to the subject of substitute feeding, a subject which must be met and dealt with as any other life-saving question.

In studying the methods of human breast feeding and the materials of which the human breast milk is composed, we have arrived at the following conclusions, which should be distinctly and concisely stated before taking up the question of the methods and materials for substitute feeding.

HUMAN BREAST MILK.

Human breast milk is practically sterile as it enters the infant's mouth, and is obtained by suction; it is either amphoteric or slightly alkaline in its reaction; it has a temperature of about 98 to 100 F. (36.7-37.7 C.) when it enters the infant's mouth. While it is recognized that various salts are present in solution in human milk, our modern investigations have not yet been carried so far as to obtain any practical clinical advantage in attempting to deal precisely with these salts when the milk of another mammal is used as a substitute for human milk. The three broad representatives of foodstuffs, the fats, the sugar and the proteids which occur in human milk, are the ones which we must practically deal with in making a substitute food. These three essential elements, forming the material to be used for the nutrition of the infant, do not always occur in the same percentages in the product of the mammary gland of healthy women. We must, therefore, accept the fact, which has now been established by the best chemists all over the world, that human breast milk is a food varying in its percentages, but that normally its percentages usually appear to be within certain limits. Thus, the food may safely vary from 3 to 4 per cent. in fat; the sugar, which is less varying than any of the other constituents of milk, may vary from 6 to 7 per cent., and the proteids from 1 to 2 per cent. This, however, does not mean that a somewhat higher percentage of fat than 4 must necessarily be unfit for the infant, nor that a decidedly higher percentage of the proteids than 2 must necessarily be undigestible, nor that the infant can not thrive on less

* An address delivered by request of the Ohio State Pediatric Society at Dayton, Ohio.

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than 3 per cent. of fat, or 6 per cent. of sugar. It does, however, show that human milk is a varying quantity, and that it is, therefore, not adapted to the digestion and nutrition of all infants, but that, on the contrary, a given percentage and combination of percentages may or may not be suited to the individual digestion and absorption of the infant. This explains why when one infant may be thriving on the milk of a healthy woman, this same milk from the same source may cause serious digestive disturbances in another infant.

It is very evident that the successful feeding of infants, whether it be by means of human or substitute food, is essentially an adaption of special percentages of the different elements of the milk, and of special combinations of these percentages to the individual infant. We should also always bear in mind that in addition to the composition of the milk equal attention should be paid to the temperature, to the sterility of the food, to its freshness, and to the quantity at each feeding, adapted, according to the age and weight of the infant, to the size of its stomach. The question of the capacity of the infant's stomach must especially be taken into consideration, for experience has shown that, while it is very seldom that disturbances of digestion and nutrition arise from the infant being allowed to take as much of the milk from the human breast as it wishes, this same infant will take more from a bottle than its stomach can accommodate. In this way it may suffer from mechanical dilatation of the stomach, and from lessening of the elasticity of its walls, with a resulting interference with its functions.

The following table represents analyses of good human breast milk, made by our most competent chemist, Dr. Charles Harrington, of Harvard University. The table shows the varying percentages and combination of percentages which may arise in the milk of equally healthy women whose infants were thriving. They were all cases which occurred in my practice, and were, therefore, under my own observation.

TABLE ONE—HUMAN BREAST MILK ANALYSES (HARRINGTON).[1]

Fat.—In regard to the composition of milk, it will be well to speak first of the quality of the fats which occur in the human milk. This fat consists chiefly of palmatin, stearin and olein, only about 2 per cent. of the total fat consisting of the glycerides of butyric, caproic, caprylic and myristic acids. The production of animal heat is so very important a part of the infant's well-being that it is not surprising that we should find so large a percentage of fat as 4 per cent. in the food which is provided for it, and it is very evident that this fat is put there not only for the purpose of nutrition, but also as a means of maintaining bodily heat. This latter function of the food can not with impunity be trifled with, for it is essential for the active metabolism, the importance of which we are forced to recognize when we are attempting to provide a substitute food. A proper amount of fat is also probably of great aid in the regulation of the fecal discharges, and for this purpose probably varies in the individual infant according to its individual idiosyncrasies. It is presumable also that the percentage of fat in the individual cases should be proportionate to the proteids, and this proportion is of great aid in the proper digestion of the proteids. We should, therefore, naturally expect that unless the standard percentage of fat, or at least a near approach to it, is present in the mother's milk, trouble will be likely to arise with her infant, and this has been my experience. I have found clinically that with the fat much lessened the nutrition suffered, the digestion was not good, and that there was a tendency to constipation, while when its percentage was decidedly above the standard the digestion was weak, there was a tendency to diarrhea, and in consequence a disturbance of nutrition.

These clinical observations at once suggest that in the management of infant feeding we must recognize the existence of two important conditions. One of these is the digestion of the infant, and the other is its nutrition. These two requirements are essential for a successful lactation. Milk may be easily digested but not nutritious, and it may be highly nutritious but difficult to digest, so that it is the equilibrium of these two conditions which produces a perfect infantile development. Although it is admitted that a large percentage of surplus fat is frequently found in the feces of infants whose digestion and nutrition are normal, and whose food is human milk, yet we have no more right to conclude from this that a smaller percentage of fat is sufficient for nutrition, or that a surplus eliminated by the feces is unnecessary, than we have to assume that there is too much oxygen in the blood because we find a certain surplus of oxygen in arterial blood which is returned to the lungs in the pulmonary veins. In fact, it is far more probable that Nature introduces a certain percentage of fat in human milk with a purpose which can be accomplished only by that percentage, so that it is an error to change this percentage beyond the variation which commonly occurs in average human milk, unless we find from direct clinical evidence in the special case that such a variation is demanded. There are, for example, many cases, especially in premature babies, and in babies with especially weak fat digestions in which greater variations than normally occur in human milk are called for, and for whom very low percentages of fat may be necessary.

Sugar.—The form of sugar which is found in human milk is called milk sugar, or lactose. It is more digestible than fat, but does not have so much potential energy, that is, so much heat-producing power in a given weight. The potential energy of the fat is to that of the sugar as 2.4 to 1. The conversion of sugar into lactic acid gives rise to many of the changes occurring in milk; for instance, the fermentation of the lactose with the production of lactic acid and the subsequent coagulation of the caseinogen by the lactic acid is one of the most common changes which milk undergoes. This process is the ordinary souring of milk. It is due to Hueppe's

TABLE 1.

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.
Fat	5.16	4.88	4.84	4.37	4.11	3.82	3.80	3.76	3.30	3.16	2.96	2.36	2.09	2.02
Milk sugar	5.68	6.20	6.10	6.30	5.90	5.70	6.15	6.95	7.30	7.20	5.78	7.10	6.70	6.55
Proteids	4.14	3.71	4.17	3.27	3.71	1.08	3.53	2.04	3.07	1.65	1.91	2.20	1.38	2.12
Mineral matter	0.17	0.19	0.19	0.16	0.21	0.20	0.20	0.14	0.12	0.21	0.21	0.16	0.15	0.15
Total solids	15.15	14.98	15.30	14.10	13.93	10.80	13.68	12.89	13.79	12.22	10.77	11.82	10.32	10.84
Water	84.85	85.02	84.70	85.90	86.07	89.20	86.32	87.11	86.21	87.78	89.23	88.18	89.68	89.16
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

1. Mothers healthy, and infants all digesting well and gaining in weight.

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"bacillus of lactic acid," which seems always to be present. Over one hundred other kinds of bacteria appear to have this same property. The *Bacillus lactis aerogenes*, described by Escherich, is closely allied to Hueppe's bacillus, and also to the *Bacillus coli communis*, which has the same property of producing lactic acid fermentation. These bacilli are easily killed at a low temperature, and their growth is checked when lactic acid has been formed to the extent of 1 per cent. The formation of lactic acid by the *Bacillus lactis aerogenes* prevents fermentation in the stomach and intestines. The *Bacillus lactis aerogenes* is present in normal digestion, and acts on the milk sugar to produce an organic acid which drives out the more noxious forms of bacteria which by their presence interfere with normal digestion. This may be given as one of the chief among the many reasons why milk sugar should be used in milk modifications, instead of cane sugar, when we are preparing a substitute food.

Proteids.—The nitrogenous constituents of milk consist of two distinct elements, caseinogen and the proteids of whey; the latter consist chiefly of lactalbumin and lactoglobulin, and of these the former is greatly in excess. It has been found more convenient and practical to use the word whey-proteids as a general name to include lactalbumin, lactoglobulin and the nitrogenous extractives of whey. The caseinogen and whey-proteids make up approximately the total per cent. of the nitrogenous matter in both human and cow's milk, but their relative proportions to each other varies greatly in the two milks. Thus, according to König, as shown in Table 2, the caseinogen in human milk is represented by 0.59 per cent., while in cow's milk it is represented by 2.88 per cent.; the whey-proteids in human milk are 1.23, while in cow's milk they are only 0.53 per cent. Although these figures are not accepted by all chemists, there is undoubtedly a much greater proportion of the whey-proteids in human than in cow's milk, and a much greater proportion of caseinogen in cow's milk than in human milk.

TABLE 2.

	Woman's Milk.	Cow's Milk.
Caseinogen	0.59	2.88
Whey proteids	1.25	0.53
	1.82	3.41

Caseinogen is the part of milk which gives rise to curds; it is precipitated by acids by the rennin ferment, and by gastric juice. It is the most indigestible part of milk, and unquestionably its very large proportion in cow's milk is one of the principal reasons why cow's milk has given so much trouble in infant feeding, as compared with human milk. Whey, on the other hand, is the most digestible part of cow's milk, and its proteids remain in solution, and are not precipitated by either acids or rennin or gastric juice, but are readily converted into the albumoses and peptones, and so are easily absorbed. The whey-proteids are partially coagulable by temperatures above 161 F. (72 C.).

There is much about the proteids of milk which is still undetermined, but it is important to recognize these differences in the relative proportions of caseinogen and whey-proteids, and in their chemical properties, for we may now so modify cow's milk that by using whey as a diluent in place of water, we can make the whey-proteid element relatively greater than the caseinogen, and by so doing approach more closely the composition of human milk.

Assuming the necessity of a substitute feeding, we must first make a choice of the best materials to use in the making of a substitute food. If again the product of the human mammary gland in its composition is taken as a standard for a substitute food for the human infant, we must at once acknowledge that the milk of no other mammal approaches the human sufficiently close to permit of its being given in a purely undiluted form.

COMPARATIVE ANALYSES OF MAMMAL'S MILK.

The following figures, which show the comparative analyses of the milk of the goat, ass and cow, animals whose milk is most readily obtained for an infant's food all over the world, illustrate this statement.

TABLE 3.

Comparative analyses of goat's, ass' and cow's milk.

	Fat.	Sugar.	Proteids.	Mineral Matter.	Total Solids.
Goat (low in sugar and high in proteids)	4.3	4.0	4.6	0.6	13.5
Ass (low in fat)	1.6	6.1	2.2	0.5	10.4
Cow (low in sugar and high in proteids)	4.00	4.50	3.5	0.7	13.0

It is self-evident that if any of these milks are to be adapted to our standard they must be in some way modified, that is, their three principal constituents, the fat, the milk-sugar and the proteids must be changed in order to make them at all similar to the percentage composition of human milk.

It is important to remember that the simple dilution of milk with water, or the addition of lime-water or of sugar, is in fact a modification of milk. Modification of milk, therefore, in a substitute infant food is a *sine qua non*, and must be done in all cases except in those very rare exceptions in which the infant is able to digest undiluted milk.

As one milk has to be modified as well as another, and as none of the milks of the animals which I have just enumerated contains any inherent quality which would lead to its being used without some form of modification, physicians have found it most convenient to use the milk of the cow, and it is the milk of the cow which I shall consider to-night in speaking of the modification of milk. The important question in discussion should be, then, how far shall the modification of milk be carried out, and how scientifically and accurately can it be done?

BREEDS OF COWS.

Supposing that the cow is the animal from which we decide to feed the infant, a few words concerning the cow will be practical at this part of the discussion. It has been found that the percentages of the fat, sugar and proteids vary in the different breeds of cows. It is, therefore, necessary to know which breed of cows provide the most stable percentages in its milk, and is therefore the one best adapted for infant feeding. The higher grades of cattle have been found not to give the best milk for a substitute feeding. The fat in the milk of the cows originating from the Channel Islands, that is, the Jerseys and Guernseys, differs considerably from that of other breeds, and also from that of human milk, and it has been found from long clinical experience that the milk of these breeds is much less digestible than that from less highly bred cows, such as the Holstein and Ayrshire.

The breed of cow should then be chosen according to the quarter of the world in which we are feeding the infant, and, in making this choice, we should recognize that the percentages of the elements of the milk are not the same, not only in the different breeds, but in different herds of the same breed, and we should, in attempting

to obtain precise percentages from these milks, understand that these differences exist, and that they must be taken into account in our calculations. It is also a fact that there is a marked difference in cow's milk at different seasons.

The following Table 4 shows the analyses of the milks of different breeds of cows:

TABLE 4.

	Durham or Shorthorn.	Devon.	Ayrshire.	Holstein.	Brown Swiss.	Jersey.	Common Native.	American Grade.
Fats	4.04	4.09	3.89	2.88	4.00	5.21	3.69	4.01
Sugar	4.34	4.32	4.41	4.33	4.30	4.52	4.35	4.36
Proteids	4.17	4.04	4.01	3.99	4.00	3.99	4.09	4.06
Mineral matter	0.73	0.76	0.73	0.74	0.76	0.71	0.73	0.74
Total solids	13.28	13.21	13.04	11.94	13.06	14.43	12.86	13.17
Water	86.72	86.79	86.96	88.06	86.94	85.57	84.14	86.83
	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Daily quantity	large	moderately large		very large	mod. large	mod. small	large	mod. large

It is to be noted that the percentage of fat in the herds of Holsteins on the Walker-Gordon farms average from 3 to 4 per cent., as contradistinguished from the average Holstein of 2.88, as shown in the table.

In comparing Jersey milk with other milks we find that human milk contains only a small proportion of the glycerids of the fatty acids, such as butyric, caproic and caprylic; also that the milk of the Holstein has a much larger proportion of the stable fats, such as olein, stearin and margarin, than does that of the Jersey, which contains a much larger proportion of volatile glycerids. These volatile glycerids do not exist in the mammæ, but are formed in the milk soon after milking, and this change takes place more quickly in some breeds than in others, and notably so in the milk of the Jerseys and Guernseys. In the emulsion of milk from Jersey cows the corpuscles are much larger than in the Holstein, while the Holstein emulsion when broken down is much more easily restored, that is, it emulsifies better and resists better a destruction of its emulsion, such as occurs when cream is produced, than do the milk of the Jerseys and Guernseys. The emulsion of the fat in the milk of the latter breeds is easily broken up, is more apt to produce oil drops on the top of the bottle, and when disturbed is not so easily restored. This latter fact is one of considerable importance when we are dealing with the rather difficult question of transporting modified milk.

ACTION OF HEAT.

A few words as to the action of heat on milk and its modifications will be of practical value to the physician when in writing a prescription for a food he has to determine either the degree of heat needed for the special transportation or for the gastro-enteric disturbance with which he is dealing: 1. Most pathogenic organisms are destroyed at from 140 F. (60 C.) to 147 F. (64 C.). 2. Certain spores are not destroyed by a single pasteurization. 3. All spores are destroyed in a heat of 248 F. (120 C.). 4. All germs are destroyed at 154 F. (68 C.). 5. The tubercle bacillus has lived in a heat of 149 F. (65 C.) with one hour's exposure. 6. Lactalbumin, the principal of the whey-proteids, begins to coagulate at 158 F. (70 C.). 7. The rennin enzyme is destroyed at 140 F. (60 C.). (The last two points are of practical importance when whey is used in a modification of milk.) 8. A temperature of 155 F. (68 C.) is the temperature now used for pasteurization, as it is sufficiently high to kill practically all pathogenic germs found in milk, without coagulating the lactalbumin, or producing any change which can be detected by taste or by the appearance of the milk. 9. If a modified milk which contains a high percentage of sugar and of lime-water higher than 10 per cent. is heated as high as 212 F. (100 C.) and sometimes even at lower temperatures, the mixture becomes brown, seemingly from the combined action of the heat, the milk-sugar, and the lime-water producing a caramel.

When milk is heated to 158 F. (70 C.) a certain amount of the lactalbumin and lactoglobulin is coagulated, but the major part of the lactalbumin is converted into a form which is precipitated by acids, magnesium sulphate, and by other precipitants of casein which do not act upon the lactalbumin in its natural state. At 177 F. (80 C.) certain organized principles undergo a change, the nature of which is not known, but the evidence of which is found in certain chemical reactions. At 212 F. (100 C.) calcium citrate is deposited, some oxidation of the sugar occurs, and a deposition of certain salts and albumin on the fat globules occurs, causing the latter to rise and coalesce. At temperatures exceeding 140 F. (60 C.) a skin is formed if the milk is exposed to the air, consisting probably of an oxidized product of casein, together with calcium salts and some fat. When heated above 158 F. (70 C.) the taste and smell of milk are altered.

COMPOSITIONS OF MILKS.

It will now be easily understood why if a modification of milk for a substitute feeding is necessary, it should be accurate, must be expressed in the percentages of the constituents of the milk, namely, the fat, sugar and proteids, and that the alkalinity and the temperature should be stated. In order to accomplish this, the matter is greatly simplified by thinking and speaking in percentages, and in order to obtain definite percentages we must, of course, know the composition of the materials used, and we must also devise methods by which we can calculate how much of these different materials must be used in order to get the different percentage combinations of the fat, sugar and proteids. The following table compares the elements of human and of cow's milk:

TABLE 5.

	Human Milk.	Cow's Milk.
Reaction	Slightly alkaline.	Slightly acid.
Specific gravities	1028 to 1034	1032
Water	87 to 88 per cent.	86 to87 per cent.
Total solids	12 to 13	13 to 14
Fat	3 to 4	4 00
Milk sugar	6 to 7	4 50
Total proteids	1 to 2	3 50
Whey proteids	1 23	0 53
Caseinogen	0 59	2 83
Mineral matter	0.1 to 0.2	0 70

It can be easily seen by referring to the above table that simple dilution with water will not make cow's milk similar to human milk, for, although we may by such dilution reduce the proteids to the same percentage which occurs in human milk, yet at the same time we have so reduced the fat and the sugar that the food would in few cases prove to be nutritious. Moreover, if the total proteids in cow's milk are reduced by means of dilution until we obtain a proper percentage of caseinogen by so doing

the whey-proteids will be diminished far below their relative proportion in human milk, since by referring to Table 5 it will be seen that the whey-proteids in cow's milk are already in much smaller proportion to the caseinogen than they are in human milk.

COMPOSITIONS OF CREAMS.

In like manner if we dilute different creams we shall find that the same objections hold for them as for the simple dilution of milk. For instance, an analysis of a 16 per cent. cream shows fat 16 per cent., sugar 4.05 per cent., proteid 3.20 per cent. In this case simple dilution with water sufficient to reduce the fat to 4 per cent. would reduce the sugar to 1.01 per cent., and the proteids to 0.80 per cent. It is therefore evident that still further modification must be carried out in order to raise the sugar and proteid percentages to make them equivalent to those of human milk.

It will now be understood that in order to obtain mixtures containing varying percentages of fat, sugar and proteids we shall have not only to dilute cream in order to obtain our fat percentage, but must add milk-sugar, either in a solution of definite percentage or in a dry form, in order to raise the sugar percentage, and some material such as fat-free milk, by which we can obtain the desired percentage of proteids.

Cream is evidently the most natural and practical material to use. It is also evident that the cream must have a definite percentage of fat in order that we should be able to calculate and obtain the percentage of fat desired in the mixture. Moreover, we must make use of creams of different strengths in order to make it possible to obtain certain combinations of proteids with a given percentage of fat.

The following Table 6 will illustrate the limitations in the percentage of proteids dependent on the use of creams of different strengths:

TABLE 6.

	Per cent. Fat.	Lowest possible proteids of.
10 per cent. cream gives with	1	0.38
10 per cent. cream gives with	2	0.67
10 per cent. cream gives with	3	1.00
10 per cent. cream gives with	4	1.34
12 per cent. cream gives with	1	0.27
12 per cent. cream gives with	2	0.54
12 per cent. cream gives with	3	0.82
12 per cent. cream gives with	4	1.08
16 per cent. cream gives with	1	0.20
16 per cent. cream gives with	2	0.40
16 per cent. cream gives with	3	0.60
16 per cent. cream gives with	4	0.80
20 per cent. cream gives with	1	0.15
20 per cent. cream gives with	2	0.31
20 per cent. cream gives with	3	0.46
20 per cent. cream gives with	4	0.62

You will thus appreciate that unless the physician knows not only the percentage of the fat in the cream which he uses, but also what limits of proteids he can obtain by the use of such a cream, he can not prescribe exactly the proteid percentage. He also must realize the risk which arises from not knowing whether he is dealing with an infant who may or may not be especially susceptible to variations in the percentages and combinations of the fat and the proteids in its food. Just as an exact and proper modification of milk may accomplish very favorable results, so an improper modification of milk may be unsafe for the patient, and in fact may lead to symptoms worse than indigestion, such as infantile atrophy, rhachitis and scorbutus.

VARIATIONS OF DIGESTION.

There is not much question, from my somewhat extended experience in the feeding of infants whose digestions are normal and also of those in whom it is abnormal, that infants show pronounced variations in their function of digestion. Although a number of normal infants may readily digest a combination of percentages which corresponds to the composition of average human milk, yet there is no doubt that many normal infants show decided idiosyncrasies of digestion, and that we, therefore, can not be satisfied in giving such infants a milk which simply duplicates the percentages of average human milk. We must, on the contrary, be prepared at any time to meet such idiosyncrasies, and when we take into consideration the variations in digestion which must necessarily occur under conditions corresponding to varied ages and abnormal digestions, there is no doubt logically but that methods for obtaining a great variety of percentages and combinations of percentages are essential for the successful feeding of large numbers of infants.

An instance which has come under my notice illustrates what I have just said. Let us suppose that you are called on to prepare a substitute food for a premature infant whose function of digestion is very weak and undeveloped. If to such an infant a substitute food corresponding in its percentage combination to good average human milk, that is, fat 4 per cent., sugar 7 per cent., proteid 1.40 per cent., is given (as happened in one case which I have recently seen), disastrous results might occur, and it did in the case just referred to. Convulsions and symptoms of serious indigestion appeared and the infant died. If, on the other hand, this infant had been fed with an accurately prepared food of fat 1.50 per cent., sugar 4 per cent., total proteid .50 per cent., or preferably by a split proteid calling for caseinogen 0.25 and whey-proteid 0.25 it might have lived. It has also been pretty well proved that infants throughout the early months of life, and often during the first year, seem to have an idiosyncrasy which either allows them to digest or prevents them from digesting a low or high percentage of one of the elements of milk as well as of two or three. While certain infants may digest and thrive on the average percentage of sugar and proteids, they may be unable to digest even a very low percentage of fat. In like manner they may have a weak sugar digestion, and, as is so often found, a weak proteid digestion. It has also seemed to me in my studies that certain infants have an idiosyncrasy which prevents them from digesting the average percentage of caseinogen; and in some cases we shall probably find that a similar idiosyncrasy exists in reference to the ability of an infant to digest the percentage of whey-proteids which would be easily tolerated by an average normal infant.

PATENT AND PROPRIETARY FOODS.

A word here will probably be useful in regard to the patent and proprietary foods. They are all pretty much of one class, and in most cases contain a considerable amount of starch. The analyses of these foods show that without exception some of the principal three elements, especially the fat or proteids, are so low in their percentages that they must be modified in order to be nutritious. Without the addition of milk in some form they are undoubtedly not nutritious, and are practically useless. If, on the other hand, milk be added to them in order to make them nutritious, the question at once becomes one of the modification of milk, and in that case it is much more simple at once to modify good pure cow's milk. These foods, however, do much more harm than that which is connected with their lack of nutritious ele-

ments. One point is that they almost always contain some element which is not in human milk, such as starch, which in very young babies may seriously disturb digestion. Another harm that I refer to is that they encourage carelessness of the selection of the milk supply which is used in connection with them, in that the parents are led to believe that the chief virtue of the food lies in the food itself, and not in the milk which is added to it. Mothers and nurses are therefore very apt to use a poor milk supply, and are indifferent to the fundamental principles of scientific feeding, since they believe that the important point is the selection of some particular brand of patent or proprietary food. It would be just as sensible to attribute the entire success of an infant that is thriving on a substitute food to the milk-sugar which happens to be used in an ordinary modification.

If the physician wishes, for a definite purpose, or as he naturally would, during the tenth, eleventh and twelfth months of life to use starch in his substitute food, the starch should be presented in definite percentages. Thus cereal solutions can be added in place of the boiled water in any combination without altering the percentage of fats and proteids, and the percentage of starch thus added may be accurately determined if the percentage strength of the cereal solution is known. For instance, if fourteen ounces of a 1 per cent. solution of barley water is added in place of the boiled water, to a twenty-ounce mixture, the percentage of starch in the mixture is:

$$\frac{14 \times 1}{20} \text{ or } 0.70 \text{ starch.}$$

It is well here to state my views concerning the use of starch in any form in the early weeks and months of life. The amylolytic function of the infant is but very little developed at birth. It gradually increases as the infant grows older and has attained the stage of development by the tenth, eleventh or twelfth month which warrants its being used at that time for the conversion of starch into sugar. If it is used in the early months of life, we are taxing an undeveloped function, and we are liable to have results as deleterious to the infant's welfare as we should were we to tax the function of walking and standing at too early a period. It is quite as illogical and detrimental to the infant's welfare to tax an undeveloped function as it is not to make use of such function when the time for using it has arrived. Thus we should make use of the amylolytic function in the latter part of the first year, since at that time it is ready for use, just as we allow the child to stand at the same period.

The advantage which used to be claimed for the use of starch in a substitute infant's food was that it broke up the caseinogen in the milk, and thus made a finer coagulum, and one more similar to that which occurs in human milk. This action of the starch on the coagulum is, however, required in comparatively few cases, as we have learned to deal with the coagulum in a different way since we have instituted a method by which the caseinogen which forms the coagulum can be reduced to a very small percentage, while the whey-proteids, which are almost as nutritious as the caseinogen, can be used in quite a large percentage. By this method we can obtain a toal proteid percentage as high as 1.15 per cent., of which 0.90 per cent. is whey-proteids, and 0.25 per cent. is caseinogen.

The following Table 7 shows the combinations possible in these whey-cream mixtures, when prescribing from the milk laboratories:

TABLE 7.

Whey proteids, per cent.	Caseinogen, per cent.
0.25	0.25
0.50	0.25
0.75	0.25
0.90	0.25
0.90	0.50
0.75	0.50
0.90	0.60
0.90	0.75
0.90	1.00

Any percentage of sugar from 4 to 7 can be combined with these percentages.

If we thoroughly grasp the sense of what has just been said in connection with human breast milk, and the milk of animals, especially that of the cow, which seems to be the animal whose product is most adapted to substitute feeding, we shall at once see that the main question regarding substitute feeding is how to obtain the best milk, how to treat it, and how to modify it accurately. The importance of the milk supply is, however, great, and there is no doubt but that the breed of the cow, the care of the cow, of the stables and of the milkers on the farms especially used for the purpose of obtaining a proper milk supply for substitute feeding, is the keynote to success.

(To be continued.)

Original Articles.

ALBUMINURIA IN DIABETES MELLITUS.

ITS IMPORTANCE AS A FACTOR IN THE CAUSATION OF DIABETIC COMA.*

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Among the secondary tissue degenerations which result from diabetes none is so frequent as lesional changes in the kidneys. No extensive autopsy reports are at hand to establish the relative frequency of renal changes in diabetes, but such as are forthcoming demonstrate in a striking manner the association. Thus out of Griesinger's 64 autopsies, renal alterations were found in 32. In the main, the changes were degenerative in character, either fatty or hyperplasic. Seegen found such changes in 20 out of 30 cases brought to autopsy, and Dickinson in 25 out of 27. No special form of renal defect in diabetes can as yet be looked on as typical, the changes being variable in kind and degree, although almost always present. The form which they assume will depend on the duration and intensity of the irritation, to which the renal gland structure is subjected. As the toxemia differs very greatly in character and degree in the different forms—mild and severe—of diabetes, so we find the secondary changes in the kidneys differing widely in their essence and microscopic character.

The most interesting histologic feature of the diabetic kidney is the hyaline degeneration of the tubular epithelium first described by Armanni, and now generally known as the cellular necrosis of Ebstein. This condition of the tubular epithelium is encountered only in severe toxic forms of diabetes. Dreschfeld found these necrotic changes in 6 out of 10 cases of diabetic coma. Other renal alterations occasionally met with in severe

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. J. M. Anders, Frank A. Jones and W. S. Thayer.

forms of the disease are hypertrophy and the so-called lesion of Ehrlich, which, according to Frerichs and Ehrlich, consists in glycogen degeneration of Henle's loop and the straight tubes. All these renal changes may be ascribed to the action of toxic bodies of highly irritating character, such as acetone, diacetic and oxybutyric acids, etc., which are present in the blood and urine of such cases.

In the mild long-continued form of diabetes the renal changes which develop are usually those of chronic nephritis. The development of chronic nephritis under these circumstances may be explained by prolonged hyperfunction, combined with persistent but low-grade irritation of the renal structure by the saccharin urine, which lead first to hyperemia, and if long enough continued, finally to inflammation of the parenchyma and overgrowth of the interstitial tissue. In this type of the disease the renal gland changes are nutritional and degenerative, whereas in the more rapidly progressive and toxic form of the malady they are inflammatory or necrotic. In the majority of cases presenting chronic organic processes in the kidneys the nephritis is probably of the mixed type, presenting both parenchymatous changes and interstitial hyperplasia. In aged diabetes arteriosclerotic renal atrophy is frequent.

Whatever form the renal alterations may assume, they sooner or later give rise to the presence of albumin in the urine. The frequent association of albuminuria with diabetes has received considerable attention, and much statistical evidence is available.

Pollatschek	found albumin in	37	per cent.	of cases.
Von Schmitz	"	"	63.4	"	"	"
Lecorché	"	"	50	"	"	"
Bouchardat	"	"	45	"	"	"
Von Noorden	"	"	24.5	"	"	"
Grube	"	"	40.4	"	"	"
Stokvis	"	"	40	"	"	"
Bouchard	"	"	43	"	"	"
Von Dusch	"	"	28.5	"	"	"
Rokitansky	"	"	66	"	"	"

These statistics represent an average of 43.68 per cent in which albuminuria was present in diabetes.

Attempts have been made to classify the albuminuria of diabetes. Goudard distinguishes two nosologic varieties, which he names functional and lesional, the former associated with renal fatigue with phosphaturia or with organic disassimilation, whereas the lesional is produced by some form of renal lesion. Jacobson, on similar grounds, separates albuminuria of diabetes into benign and severe.

Grube divides diabetic albuminuria into five varieties, viz.: 1, terminal albuminuria associated with diabetic coma; 2, cardiac albuminuria met with in connection with myocardial weakness; 3, senile albuminuria of arteriosclerotic origin; 4, functional albuminuria due to irritation of kidneys by the saccharin urine; 5, albuminuria associated with organic renal changes. Salles recommends an equally complicated classification.

It seems to the writer unnecessary and confusing to adopt any elaborate classification for this condition. With the exception of the rare cases of albuminuria produced by circulatory failure in patients of asthenic type, the albuminuria of diabetes may, for general clinical purposes, be placed in one of two categories.

I. TOXIC ALBUMINURIA.

To the class known as toxic albuminuria belong the cases of the severe form of diabetes which are entering the terminal stage of the disease and in which the highly irritating acid toxins of endogenous formation have produced hyaline changes of the tubular epithelium—the so-called cellular necrosis of Ebstein, already referred to. This albuminuria is never absent in the stage of organic disassimilation and in diabetic coma, although it may fail to make its appearance until the terminal stage is entered on and toxinuria becomes established. This albuminuria is never of severe grade, seldom amounting to more than a mere trace, or at most, 1 to 1,000. It usually shows some increase just before death, and sooner or later becomes associated with large numbers of hyaline tube casts. After it makes its appearance, this form of albuminuria seldom disappears again completely. As a rule the albuminuria and glycosuria bear no direct relation to each other, and in occasional cases may even stand in inverse proportion to one another. It will usually be found, however, that a direct relationship exists between the toxinuria and the albuminuria, the latter increasing or diminishing with increase or dimunition of acetone and acid toxins in the urine.

This form of albuminuria constitutes what has been sometimes known as the acute albuminuria of McGuire. Universal clinical experience associates this form of albuminuria with the advent of coma, which gives it a grave prognostic significance.

II. DEGENERATIVE ALBUMINURIA.

The second class of albuminuria in diabetes includes the vast majority of cases of this condition, for notwithstanding the greater proportional frequency of the first variety to the class of cases in which it arises, the severe type of diabetes, these constitute but a small per cent. of the great bulk of diabetes. This form of albuminuria is also the product of renal irritation, but irritation of an entirely different nature and severity. In this class of cases the sugar in the urine is the offending agent. Its potency in this respect is much less than that possessed by the acid toxins of the severe grades of the disease, but its continuous action over long periods of time, combined with renal hyperfunction, which attends the associated polyuria, in the end inevitably initiate changes in the kidney which, in their full development, constitute nephritis. In proportion as the renal epithelium is affected, albumin appears in the urine, and as parenchymatous changes are usually a first result of the hyperemia following irritation, albuminuria is a pretty regular attendant on the renal change. In many cases for considerable periods this albuminuria is not attended by any very demonstrable evidence of nephritis, and consequently it has been misnamed functional, to distinguish it from albuminuria, associated with definite and clinically recognizable renal lesions. It has been considered a development of little importance and in the presence of conflicting therapeutic indications, as between the glycosuria and albuminuria, the latter is usually neglected. After a time, however, this at first apparently accidental albuminuria is found to merge imperceptibly into a true lesional albuminuria, with impaired renal function and secondary cardiovascular developments. Hyperfunction and persistent irritation have done their work, and a nephritis of a mixed type becomes established and adds to the difficulties of the case.

It will be seen from the foregoing brief considerations regarding albuminuria in diabetes that fully a third or more of all cases of the disease manifest this symptom at some time during their course. Although by no means of itself always a sign of established renal mischief, it is never devoid of importance. It may appear so frequently without accompanying disturbance that many writers falsely regard it as a harmless

sign. As pointed out, it may occasionally arise as the apparent product of irritation of the kidneys by the saccharin urine, but should the glycosuria continue, definite renal and secondary systemic changes eventually result. In aged diabetes with arteriosoclerosis albuminuria may be present from atrophic changes in the kidneys of sclerotic origin. In the late stages of diabetes, of whatever form, albumin may appear in the urine as the result of venous stasis from cardiac asthenia.

The conclusion forced on us by these considerations is that the development of this symptom is always a significant event, indicative in the mild, long-continued form of the disease of developing nephritis, and in the severe toxemic stages of diabetes we are warranted by experience in regarding it as one of the terminal developments.

A matter of great interest in connection with the albuminuria of diabetes is the frequency with which the glycosuria is observed to diminish as the albuminuria becomes more pronounced. In exceptional cases the glycosuria may even entirely disappear, thus constituting the substitutive albuminuria of Salles. Maragliano is skeptical of a true substitutive process, and explains the fact on the theory that albuminuria appears on improvement of the diabetes under treatment, because the polyuria lessens *pari passu* with diminution of the glycosuria and albumin already present but masked by the previous dilution of the urine is revealed. This view can not be seriously accepted as an explanation, because in most cases diminution of the glycosuria does not precede the advent of albuminuria, but follows it, and albuminuria is, moreover, not usually the result of treatment. A diminution in the glycosuria, even its entire disappearance, has been observed to occur as the apparent result of the hyponutrition of such complications, as pulmonary tuberculosis, etc., when they arise during the course of a diabetes. This can not be considered a similar process to that under consideration, for in the great majority of substitutive albuminurias the nutrition is not materially depressed. Naunyn's contention that this peculiar conduct of the glycosuria is analogous to the behavior of that symptom in the presence of cachexia and marasmus, from whatever cause they may arise in diabetes, is stoutly opposed by Kleen, who observes that he has repeatedly seen cases in which nephritis, though advanced, has left a fairly good state of health, with no marasmus or cachexia, but with marked diminution of glycosuria. Such cases are within the experience of most observers.

A number of very suggestive experimental observations are at hand which have some bearing on this question of the diminution of the glycosuria in the presence of albuminuria.

Achard has suggested that in carrying out the test for alimentary glycosuria we must not forget that the failure of sugar to appear after large amounts of glucose have been swallowed, may be due not solely to the vigor of the sugar-converting power as has been supposed, but wholly or partly to renal impermeability. In confirmation of this idea he reports a case of apoplexy with a small amount of sugar in the urine but a very large amount in the blood (5.1 grams per liter). This hyperglycemia he attributes to a lack of renal permeability, which was shown to be present in this case by the methylene blue test. McGuire declares himself inclined to ascribe the diminution of the glycosuria to inefficiency of the kidneys, and he suggests that the albuminuria and its accompanying renal changes may be concerned in the production of coma.

Schupfer observed in cases of combined albuminuria and glycosuria experimentally produced that more sugar was excreted by the kidney which eliminated the least amount of albumin, the excretion of urea corresponding to that of sugar. When the kidney lesion was one-sided, the injured kidney excreted albumin and much less sugar than the uninjured one.

Ellinger and Seelig demonstrated that dogs from which the excretion of sugar was constant, after injection of cantharides showed a diminution in the output of sugar, the excretion falling in one case from 7.6 to 2 per cent. At the same time they were able to establish that the sugar content of the blood was markedly increased. They think that their results prove that the kidney lesion caused by the cantharides led to a diminution in the glycosuria, while the glycemia still existed. Along the same line as the foregoing are the experiments of Richter, who, after previously damaging the kidneys, produced glycosuria by means of phloridzin and observed that the excretion of sugar almost constantly began later than in control animals, and did not reach so high a point.

In an attempt to solve the question of the existence of a renal form of diabetes Klemperer administered as much as 10 grams of phloridzin to each of ten subjects having granular kidneys, and there was no reaction in seven. That three of his patients developed glycosuria he thought might be due to portions of the kidneys having been still unaffected by the morbid process. Klemperer gave phloridzin by the mouth. Pugnat and Ravilliod administered phloridzin subcutaneously to twenty-one cases of renal disease, and in no case was the excretion of sugar normal in amount, and they conclude that with renal disease phloridzin glycosuria is either diminished in amount or entirely absent. In thirteen of the cases a marked diminution was observed, and in eight cases it failed entirely to appear. The experiments of Achard and Delamarre, performed in the same manner as the above, gave somewhat similar results. In five cases of interstitial nephritis four showed a marked hypoglycosuria, and in one case no glycosuria resulted. In four cases of acute tubal nephritis three showed hypoglycosuria, and in one case no glycosuria resulted. Of nine cases of chronic tubal nephritis five were hypoglycosuric, and four non-glycosuric.

From these collected observations the inference seems clearly justifiable that increased tolerance for carbohydrates and diminution of glycosuria in the presence of albuminuria is due to lesion of the kidney, which operates to cause diminished permeability of the renal secreting structure, not alone to sugar, but also to urea and other extractives, with accumulation of these bodies in the blood.

In the light of this deduction, an entirely new importance becomes attached to albuminuria and its associated renal changes in diabetes. The development of albuminuria in diabetes at once assumes a new and greater prognostic significance, especially in grave cases of the disease, where it may be of importance in the production of coma, by causing a heaping up of sugar and toxins in the blood. We have seen that there are constantly present in fatal cases of diabetic coma inflammatory and necrotic changes in the renal gland structure, comprising most frequently the epithelial necrosis of Ebstein, and less frequently hypertrophy with hyperemia and the degenerative lesion of Ebrlich. That these changes are not merely accidental is attested

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by the constancy of their occurrence, some form being almost invariably present. We have also seen that albuminuria invariably develops before the advent of coma. Grube, Williamson, Stokvis, Kleen and others regard its occurrence at this stage as constant, and their opinion is verified by practical experience. Personally, I have never seen coma develop without albumin being present in the urine, usually associated with casts. Kuelz first pointed out the frequent association of renal casts with diabetic coma, and they are now regarded as a sign of decided significance. We may regard the albuminuria and casts, under these circumstances, as the visible outward evidence of the renal gland changes. The results of experimentation already detailed point to the fact that the kidney lesions are inimical to the glycosuria, and frequently interfere completely with transudation of the sugar. Equal proof exists that urea, and presumably other organic extractives, suffer a diminution in the urine. It is a matter of common observation that immediately preceding the development of coma, a marked fall in renal efficiency takes place. Not only does the sugar diminish in quantity, but the quantity of urine, the urea and other urinary solids suffer a decided and material reduction. Dreschfeld has observed in two cases that at the outset of coma acetone and the ferric chlorid reaction entirely disappeared from the urine. No corroborative evidence is at hand regarding this interesting observation. Certain it is, however, that preceding coma we invariably have renal conditions established with albuminuria and casts, and with decided reduction in renal permeability. To the writer abundant proof exists in these associated renal changes and clinical developments for the belief that the kidney alterations are an invariable antecedent of diabetic coma, and frequently its determining factor, by causing a sudden and marked diminution in renal permeability and a heaping up in the blood of the diabetic toxins. This view of the etiology of diabetic coma does not substitute a uremic for a purely diabetic origin, for the coma is certainly not uremic, although uremia may be a secondary contributing factor. It is frequently observed in grave diabetes that acetone and diacetic acid may be present for long periods of time without the incidence of coma, and not until the evidence of renal alterations make their appearance, does the patient develop profound evidence of coma. Experimental evidence regarding the toxicity of these bodies demonstrates that acetone, diacetic and oxybutyric acids can not be said to be toxic in the ordinary sense of the words, and that all of them can be taken by a healthy person in comparatively large amount without ill effects. It is shown, however, that if they are introduced into the blood of animals in large enough quantities they will produce symptoms closely resembling those of diabetic coma, and that they possess the power of producing albuminuria. It has been observed that acetone, diacetic and oxybutyric acids occurring in certain other states than diabetes occasionally give rise to all the graver symptoms of the coma of diabetes. It can not be doubted that these toxins are the cause of coma in diabetes, but it is the renal impermeability produced as a result of the irritation of these bodies in the blood and urine which is the final determining factor, by so increasing the toxemia through accumulation of these bodies in the blood as to initiate the coma:

CONCLUSIONS.

The following conclusions seem warrantable in the light of the facts here collected:

1. Albuminuria is a frequent development during the progress of diabetes, over one-third of all cases manifesting this symptom at some time during their course.

2. Albuminuria in diabetes may, for clinical purposes, be divided into two varieties, toxic and degenerative.

3. Toxic albuminuria is generally of acute onset, arising during the later stages of the severe forms of the disease, as the result of irritation of the tubular epithelium, producing hyaline degeneration thereof, and due to the presence of acid toxins in the blood and urine.

4. Toxic albuminuria is an invariable precedent and accompaniment of coma, and may be regarded as of the gravest prognostic significance.

5. Toxic albuminuria with its associated renal changes, is the final determining cause of coma diabeticum, by producing a heaping up of sugar and toxins in the blood, through diminished permeability of the renal secreting structure.

6. Degenerative albuminuria occurs with great frequency during the progress of the mild type of the disease, and is of renal origin and produced by a gradually developing nephritis, which arises from prolonged hyperfunction and impairment of renal nutrition.

7. The appearance of albumin under these circumstances, while of little immediate significance, is of the greatest eventual importance, as indicating the intrusion of chronic nephritis into the already manifold clinical difficulties.

8. A few cases of albuminuria in diabetes may be produced by venous stasis due to cardiac asthenia, and under such circumstances will be associated with other evidence of heart failure.

9. Albuminuria in diabetes is never devoid of importance. It may be of the gravest significance, as we have seen, and is always of sufficient import to receive the earnest attention of the clinician.

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DISCUSSION.

Dr. William Krauss, Memphis, Tenn.—The percentage of cases of diabetes with albuminuria is perhaps greater than stated by the essayist, at least this has been my limited experience. I recall a case that no longer eliminated sugar on account of lost permeability, only albumin and casts. He had a horror of Bright's disease, and so I assured him that he was suffering from secondary nephritis, and under proper regimen he did fairly well. A student one unfortunate day told him nephritis and Bright's disease were one and the same thing. This depressed him so that he took to his bed and never recovered.

Dr. F. R. Weber, Milwaukee, Wis.—There is one point of great importance in this connection, the great influence of intercurrent febrile affections in cases of diabetes. Symptoms of intercurrent febrile affections, lasting three or four days, have a wonderful influence on these patients. I recall an instance

occurring in a young girl of eight years, who had diabetes in childhood, which was not a typical case at all. One evening the child was stricken with tonsillitis and died within twenty-four hours. In this case a physiologic albuminuria rapidly developed into a pathologic albuminuria, coma appearing before death.

DR. ARTHUR R. ELLIOTT, Chicago—My purpose in presenting the paper was to draw attention to the importance of albuminuria in diabetes; the association of the two having never been regarded hithertofore as having any special prognostic significance. I believe albuminuria occurring in diabetes is never without significance. In acute cases it ought to be interpreted as a sign of approaching danger, and it should under all circumstances receive the earnest attention of the practitioner. The association of albuminuria with developing diabetic coma is too invariable to be mere coincidence. The conclusions of this communication, if they be correct, make the development of albuminuria one of the most important incidents of the diabetic state.

FRACTURE OF THE UPPER THIRD OF THE FEMUR SUCCESSFULLY TREATED WITH PLASTER OF PARIS WITHOUT EXTENSION.*

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Fractures of the shaft of the femur are very common accidents, despite the strength of the bone. The lower end of the bone is more frequently broken than the upper. Fractures of the upper third are usually due to indirect violence, and of the lower third to direct injury. The course of the fracture is usually oblique. Marked angular, rotary and longitudinal displacements usually attend these fractures. The lower fragment is usually drawn to the inner side and behind the upper; this tendency to deformity is greatest when the fracture occurs in the upper third.

Every kind and variety of fracture is liable to occur to the femur. On account of the large muscular attachments to the bone, displacements are nearly always present in fractures of the femur, and this is especially true in relation to fractures of the upper third, when the bone is tilted forward by the action of the psoas, and abducted and turned out by the gluteus maximus and external rotators of the thigh, at the same time the lower end is drawn upward and to the inner side by the hamstring and adductor muscles. The weight of the foot assists these adductors in the eversion of the foot, which is a symptom of this fracture. The proper appliances for treatment of fracture of the femur has caused wide and varied discussions with many diversified views; there are perhaps more special apparatus invented and discarded for the treatment of these fractures of the femur than for any other bone of the body, but the one point of extension is agreed on by all.

Recumbent position, a suitable bed with foot elevated, a hair mattress, not too soft, and immobilized retention of the fragments are indispensable to success.

The nates are prevented from sinking into the mattress by placing boards between the mattress and springs of the bed. Extension is usually obtained by cord and weight applied to the leg over a pulley attached to the foot of the bed. The foot of the bed is often raised six inches and the extension weight increased up to ten pounds in order to overcome the muscular contraction so that the fragments can be brought down together.

Many surgeons have called attention to the difficulty in approximating the fractured ends, especially when they occur in the upper third of the femur, and in maintaining them in apposition after they have once been reduced. A casual glance through our different museums will prove that this is the seat of permanent deformities and usual shortening of the fractured limb, which has caused so many suits for damages and brought out so many cork-sole shoes and criticisms on surgeons.

Dr. Allis even considered this shortening and displacement so serious that he advised immediately cutting down on the fracture and wiring the bones together. In the case of a transverse fracture with lateral displacement and overlapping more than an ordinary extension apparatus to hold it in place is required. Direct lateral and anterior pressure is absolutely essential for the proper union and keeping in place of broken fragments. Under a general anesthetic, with the patient placed on a hard table and by making firm pressure on the upper fragment of the bone, while an assistant makes strong extension and counter-extension by pulling directly on the foot and body, the fragments can usually be approximated.

Owing to the mass of fleshy muscles which encompass the bone it is rather hard to say exactly when these fragments are in apposition. Good, all-around anterior lateral support for these fractured ends is best obtained by a plaster-of-paris dressing, after the bones have once been properly adjusted and swelling has abated. Owing to the thick muscular attachments of the bone, too much padding is not indicated at this point, provided the fracture is of the simple variety. The adipose tissue and muscles soon yield to the plaster dressing, which if at first seems rather tight, is soon loosened by the atrophy of the muscles and adipose tissue under rest and continued pressure, hence moderate support as can best be had by a plaster-of-paris dressing applied all around the limb, as a rule, gives better results than the long side splint, extension and sand bag and various other appliances in use. In the treatment of these cases the double inclined plane has been practically abandoned. Buck's extension by weight and pulley is still used by many surgeons. Dr. Hamilton's preference is for a long-sided splint extending from the foot to the axilla, much after the pattern of Liston's long extension splint. Valkman's sliding foot-rest is of great assistance in treatment of this fracture in many cases.

In a recent case of fracture of the upper third in a little boy 8 years old, with marked elevation of the upper fragment accompanied by eversion of the foot and drawing up of the lower fragment, I had a most successful result by the following simple method of one plaster-of-paris dressing which was not disturbed from the time of its application a few hours after the fracture until its removal four weeks after the accident, in which we found perfect union without any shortening. The little patient in pushing a swing that in its rebound came within six inches of the ground was caught under the swing-box seat, in which five or six other children were seated, the fracture being produced by direct violence, with some, though not very great, contusion of the soft parts.

The little patient was placed on a hard table with pelvic rest, the leg being held in extension; he was thoroughly relaxed with chloroform and the fracture reduced by extension, counter-extension and manipulation. While in this position a 2-inch Z. O. plaster was applied on both sides of the leg above the knee with a loop around the heel to provide for extension in the event of shortening; several roller bandages of padded cotton were ap-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. A. J. Ochsner, J. E. Moore and De Forest Willard.

plied around the limb thoroughly protecting the heels, condyles and trochanter and iliac spine; this batting was applied rather thin around the fleshy thigh proper, was extended around the pelvis, and up as high as the stomach, being thickly applied over the abdomen. With two assistants maintaining extension and counter-extension, plaster-of-paris bandages were applied from the ball of the great toe on around the fractured limb across the pelvis and up to the stomach. These bandages were interspersed with plaster-of-paris muck, not too wet, giving additional support between each layer.

With the pelvic rest it was not hard to apply the dressing, so that it came well up in the groin, which had been previously padded, sufficient space being left posterially for the use of the bed-pan. We were careful to sufficiently pad the abdomen to accommodate gaseous extensions likely to occur after dinner, and were particular to carry the bandage up around the body as high as the stomach, so that the point of fracture was in reality at the middle of the plaster cast. In applying the first plaster bandage the upper end of the fragment was depressed by firm pressure, and, as said before, the bandages were reinforced by the additional plaster at the point of the break. When the plaster had set, we found that the length of the two limbs were exactly the same; which relative position remained until a cure had been accomplished, so that at no time was it necessary to add any weights to our adhesive straps which had been applied for extension in the event of any shortening.

The patient while confined to the recumbent position could move around on his hard mattress with comparative ease, the dressings did not become soiled from any source during the month's treatment, there were no bed or pressure sores in the case; only two or three casual visits were made during the treatment, and the result, as seen by the patient before you, was all that could be expected.

This case has been reported to show the extended use of plaster of paris in treatment of fractures of the femur, especially in children; its advantages are: its cheapness, the ease with which it is applied, its perfect adaptability to the shape of the limb, combining the good effects of an all-around splint, its cleanliness; it is a one-dressing treatment with nothing to get out of place, and the splendid results which follow its perfect application should commend it to surgeons in suitable cases in preference to the numerous complicated appliances recommended for the treatment of fracture of the femur, especially in children.

The second case brought before you is an engineer with fracture of the lower third, but treated with the plaster dressing without any extension, and, as you see, with no shortening, and with complete recovery within seven weeks' time.

I will show you another patient treated without any extension method. He was an engineer on the Illinois Central Railroad, and in a collision jumped from his engine into a pile of cross-ties, the result being a backward dislocation of the knee-joint and fracture of the lower third of the femur.

I dressed the wound in plaster of paris, as in the first case. We did not have quite enough padding on the first dressing, and we had to remove the bandage and put on a second plaster-of-paris dressing on account of the swelling.

The ankylosis observed in the knee is not the result of the fracture, but is caused by the extreme backward dislocation of the joint. It has only been about seven weeks since the accident occurred, but there is not a particle of shortening, as you can observe by examination, and by the use of the tape measure. The halt in walking is a result of the dislocation, and not of the fracture. Considering the double damage of the fracture and the dislocation, the patient certainly was fortunate in the termination of this case, as he soon expects to be riding on his engine, doing his regular duties as engineer.

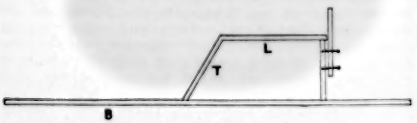
DISCUSSION.

Dr. John P. Lord, Omaha—I think the more expert we become in the use of plaster of paris the more constantly do we find an increasing field for it. While I am not prepared to say that all cases of fracture of the femur should be treated by plaster, yet I think you can perhaps treat the greater number of them in this way. Fractures just below the trochanters, for instance, I would not think of treating by the use of the plaster cast, because the extreme upward displacement of the proximal fragments would preclude the possibility of a good result in at least many of the cases. It has been my experience that the so-called intracapsular fractures are best treated by the plaster. Extension can also be used in addition to the plaster, if necessary, which I think is an excellent idea, and is too often neglected in the cases in which plaster is used. I think we can do with the plaster all that is required. I consider fracture of the femur in children comparatively easy to treat. I think this principle should govern our actions in the treatment of these cases. We should first reduce the fracture to as near a perfect position as possible, and then put on such a dressing as will maintain absolutely the proper position of the fragments, a dressing, indeed, that will continue to maintain this position of the fragments. The old-fashioned method of using sandbags and other splints relatively insecure, I think, at the best is poor practice. You can not depend on such things. We have all seen our preceptors adjust sandbags and rearrange the dressings every day. If there is anything that will encourage non-union it is that sort of thing. I think plaster does accomplish the result in a more definite and perfect manner than any other method.

Dr. W. W. Grant, Denver—The essayist referred to Dr Allis' declaration as to the difficulty of maintaining the apposition of the fragments and the necessity of cutting down and wiring the ends. In an article which he published several years ago, Lane of London stated that it was not so much muscular action that caused the displacement as it was the inflammatory conditions and blood about the ends of the fragments. In consequence of this Dr. Lane advised the cutting down and wiring the fragments—of course, under the most perfect aseptic conditions. I believe this practice often desirable in fractures of the elbow joint. However much truth there may be in his declaration that it is due chiefly to blood clot and to inflammatory conditions, we do know that the best results so far obtained have been by some form of extension with fixed apparatus around the limb. The old Buck method is today not improved on in the ordinary treatment of fractures of the shaft of the femur, coupled with the application of such splints as we may see fit to use. I would hesitate to use plaster immediately in most fractures of the femur. I believe it to be a better surgical procedure to wait until the inflammation has subsided. We know that swelling results immediately after the accident and after four or five days it has usually subsided. There will be no union during this time, and it is best to wait until the swelling has subsided before applying the plaster. It is particularly important during this time that you should see the condition of the limb every day. Legs have had to be amputated because of the failure or inability to see the patient often after the application of the plaster. Therefore, one loses nothing by delaying the application of the plaster cast for this length of time. I believe in these cases there is a better dressing than plaster—silicate of potash. It can be applied just as easily, but it does not dry so quickly, and will require several hours to harden perfectly. When the silicate of potash is dry it is very light and is just as efficient, and if you prefer the ambulatory treatment there

is no comparison. It is so much lighter, cleaner, much neater and more easily and quickly removed.

DR. JOHN W. BRANDAU, Clarksville, Tenn.—The method which I will describe I have found very efficient in three cases of fracture of the femur in children. I exhibited a model of this splint two years ago before the State Medical Association of Tennessee. In the first place I make a board splint out of some light wood, about three-quarters of an inch thick, as wide as and a little longer than the patient's body, so as to give rest to the head and extend a little below the patient's foot with sound limb extended. The next thing is to make a thigh splint, which is firmly attached to the body splint at such an angle as will hold the fragments best in apposition, and on the side corresponding to injury. Then a leg splint running parallel to the body splint, with proximal end attached to thigh piece, with a support at the lower or distal end of the leg splint which rests on and is fastened to the body splint, thus forming an irregular arch. The splint should be made by measuring the sound leg and thigh and may be made longer or shorter, according to the amount of extension one wants to apply. The extension of thigh is also regulated by the padding one puts on the leg piece. If necessary, one can apply a foot splint adjusted so as to make extension on the leg, if that is also fractured, as per drawing below. The whole splint is then padded in order to make it as soft as possible for the patient's body and padding secured by roller bandages. The patient is then placed on the splint on his back, and the body firmly fastened to the base splint by a roller bandage in such a manner as to immobilize the trunk, which I think is important in the treatment of fractures of the femur in children. The entire limb is next secured to the splint by a roller bandage. In addition to this splint one should use short



B.—Body or base splint. T.—Thigh splint. L.—Leg splint.

coaptation splints to the thigh anteriorly and laterally, so as to hold the fragments more securely in position. To secure these splints in position either a roller bandage, as above suggested, or adhesive strips may be used, and I find the latter convenient because they will not slip. The sound limb should be fixed to the body splint by strips which can be readily untied to allow the limb to be flexed in order to cleanse the child, etc. The splint can be easily made, nothing being required but a hatchet, nails, some light boards, cotton and bandages. The little child with this splint can be applied to the breast, carried out in the open air, and can be placed on either side in order to prevent hypostatic congestion of the lungs. I have had no trouble with the circulation in using this apparatus. The part on which the patient's buttocks rest may be covered by ruber cloth, or a fenestrum may be made in the cases of older children. The end of the apparatus on which the head rests should be kept a little more elevated than the foot, in order to prevent the dejecta from running back under the patient's body. The apparatus is very light when made of white pine or poplar wood.

DR. J. W. ANDREWS, Mankato, Minn.—I don't think that anything has come before this convention of greater importance than this subject of the treatment of fractures, and it just occurred to me, as Dr. Grant was speaking, that if every surgeon would follow his plan and have less to do with the side splint and complicated apparatus, the results would be far better. It is not an easy matter to get good results in fractures of the femur. It is probably not very difficult to give the patient a fairly useful limb, but to get results without shortening and without deformity is not so easy to do. And while a quarter of a century ago a physician could very well be content with some shortening, a surgeon who gets much shortening to-day is not inculpable. I well remember hearing the late Moses Gunn of Chicago, after some one had read a paper before a meeting of the American Medical Association, in which he reported having gotten a perfect result; Dr. Gunn rose from his seat and said he wished to place himself on record as saying that no man could get a perfect result in fracture of the femur. That day is past, and at the present time, where we have a fairly useful limb, but there is some deformity, we do not consider that we have gotten a perfect result. As Dr. Grant has said, it is most important to keep the limb so that it can be seen for the first few days until the inflammation, if any, has subsided, during which time the old methods of extension can be applied, after which time the extension should be continued and the limb placed in plaster of paris. I believe that if that method is carried out, the results produced by it will be as good as can be produced by any other method of treatment. In reference to the objections made by Dr. Grant as to the weight of the cast and the untidiness of the plaster-of-paris dressing, little need be said for it is a small objection, and so far as having an apparatus that our patients can walk around with, or the ambulatory treatment, I do not believe that many surgeons care to have their patients with a fracture of the femur walk around much during the first three or four weeks at least.

DR. J. D. MAURY, New York—I was very much interested in the description given by Dr. Brandau of the splint which he applies in these cases, because it suggests to my mind the straight angle chair used by Sayre to relieve adult patients who have been in bed and are suffering from hypostatic pneumonia. In the City Hospital, New York, we simply used an old rocking chair, with a hole cut in the seat for the movement of the patient's bowels. The patient is then placed in it, being sure that the seat of the chair is longer than from the legs to the region of the lower back, and the patient is then arranged in such position as will give him comfort. Gravity is sufficient in these cases to give all the extension necessary. In regard to the plaster of paris, we have been using a modification of this method in New York, which seems much superior to the "glass" bandages. About a year ago I learned from a wall decorator that they used dextrin in making the cornices of the modern buildings and it occurred to me to incorporate some of this in the plaster of paris. We have used it in 10 per cent. strength by volume, simply mixing it dry and making bandages of crinoline in the usual manner. It is a very useful addition and in a measure does away with the weight of the plaster of paris. I found that it was not an original idea and that it had been used a good many years ago by Velpeau, but I learned that Dr. Weir and others in New York were not familiar with its use, and I thought probably the members of this section might not be. In the treatment of those forms of injury to the lower extremity in which the patient may be allowed to walk without crutches it is invaluable. It is also applicable for the making of spondylitis jackets. Put on the ordinary plaster of paris and then dry it. We have been drying it by one of those torches used by painters to clean off paint, we then put on about one thickness 10 per cent. dextrin crinoline bandages. This gives the plaster a yellowish hue and makes it as hard as adamant. It is not quite so porous as the plaster alone. At the Columbia Laboratory there are some experiments being made to determine the relative porosity of the two substances. Clinically we find that it does not make the cast hot enough to interfere with the comfort of the patient, and if such should be the case, fenestræ may be placed at such frequent intervals as to more than compensate for any such limitation. The cast, although very hard and tough, cuts very readily with a sharp pruning knife if the line of section be thoroughly wet with water.

DR. D. W. CROUSE, Waterloo, Iowa—I had a new experience the last year in a case of ununited fracture of the femur that had non-union after a varied treatment of three months. The fracture was close to the condyles and was comminuted. The patient was 18 years of age at the time of the accident

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and in vigorous health. The attending surgeon placed the leg in plaster cast from the first, for six weeks. When the cast was removed it was found to be ununited; a new fixed dressing was applied and the patient put on crutches and treatment continued for six weeks, with the patient walking about, with the same unsuccessful result. He was again placed in bed with pulley extension for six weeks more when he was brought to the hospital for the purpose of cutting down and wiring the ends together. The ends were found separated by muscular tissue and fascia a full inch. The ends of the bones were uneven and some pieces of bone loose from the shaft entirely—the ends of the bones were sawed off and approximated and wired. He did well for 10 days when he suddenly developed a hemorrhage and lost a large amount of blood before the case was under control, and in great danger of his life. A forced amputation was made in the middle third of the femur and transfusion of saline solution made at the same time and although nearly pulseless in the beginning, he was put to bed in rather a better condition than when the operation was commenced. Examination of limb amputated disclosed what was already known that the popliteal artery had beaten against the irregular crest of the fractured bone and had worn the coat of the artery through and nothing but amputation was left to be done. The lesson taught is that the posterior fragments should present no projection, the bone is to be lined with the posterior aspect of limb in adjusting a fracture near the condyles of the femur.

Dr. Luther Sexton, New Orleans—A liquid glass dressing is out of the question in a hot climate like this where it would soon become moistened by perspiration. I do not know how it would do in a cold climate, or how it might be with the dextrin, but I have never seen a liquid glass dressing applied to the fracture of the femur as a permanent dressing. The doctor's conception in regard to the patients walking around with fracture of the femur, I think, is remarkable and must apply to the convalescing period. We usually confine our patients in bed for at least one month, during which time we expect absolute quiet. After this walking and the upright position is encouraged. In regard to plaster fixation I claim that the mistake made in applying the dressing in many of these cases is that they do not carry the support up high enough. In these cases the plaster of paris was carried as high up as the stomach, the stomach, of course being well padded. We put on about as much plaster above the fracture point as we did below. I am not claiming that this is the proper dressing in all cases. I applied the Z.O. plaster in order to produce extension, if I need it. The little boy is as nimble as ever, and though the fracture was in the upper third of the bone there is no deformity or shortening. In the application of this plaster dressing, I believe it is absolutely necessary to have an assistant hold the fractured bones in position until the plaster-of-paris dressing is firmly applied. One of the points that I would like to emphasize is that you should have more of the plaster of paris above the fracture; do not have the dressing all below the fracture. In the case of the little boy, the point of fracture was actually in the middle of the plaster-of-paris cast. Now, in regard to the cast becoming soiled and not being hard enough, I have usually found it hard enough when it comes to take it off. If you wish to make it harder and render it so that it will not soil, you can paint it over with shellac. I have the cast preserved which was on the little boy, and the only soiling it got was from the money he put into it. He used it as a savings bank, for he got a dollar a day for keeping quiet, which was a great help in the treatment.

Aid to Catheterization.—Schroen found that he was able to introduce the catheter in a rebellious case in which an operation seemed the only resource, by connecting the catheter with a fountain syringe. Raising the bag so that the pressure was strong as the tip of the catheter reached the constriction, the force of the water distended the walls of the urethra and allowed the ready passage of the catheter, as he describes in the *Allg. Med. Ct.-Ztg.*, lxxi, p. 659.

SUBTROPICAL TRACHOMA,

WITH SPECIAL RELATION TO A NEW REMEDY IN ITS TREATMENT.*

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MOBILE, ALA.

Discussion of the nature of trachoma with its relation to follicular conjunctivitis or gonorrheal ophthalmia does not lie within the limits of these remarks. Where great authorities differ so widely as to etiology facts yet unknown must be discovered before a consonance of opinion prevails. Trachoma, chiefly in its clinical aspect, occupies the substance of my paper.

Consideration of the disease is based on the following hypotheses:

1. Trachoma is a distinct disease, characterized by a granular and hypertrophic condition of the palpebral conjunctiva and its transition folds, usually with signs of ulceration.

2. It tends to progress in a fixed manner, varying only in degree.

3. Certain complications and sequelæ mark its course and termination.

4. Trachoma is contagious. It is a separate and distinct disease from follicular conjunctivitis.

5. It is capable of being beneficially modified, even cured, by appropriate early treatment.

After seeing the clinical aspect of trachoma in its strongholds abroad, observing its ravages and extent among the rural classes of northern and southern Germany; remarking its sinister results among the inhabitants of the metropolitan slums, such people as form the majority seeking aid in Vienna's great eye clinics, I then turn to a six years' experience in southern Alabama, and am forced to the conclusion that the type of the disease, in this latter locality, is milder in form, less frequent in the more serious complications and less disastrous in its final results than in the older countries.

Only in rare instances, chiefly among foreigners, among what might be called our Polish Jew contingent, have I seen cases of such severity as I formerly regarded as common types in European clinics.

Regarding the question of racial immunity, my evidence is entirely negative. I can only say that in spite of handling many colored patients I have never yet seen a case of true trachoma among negroes.

Some three weeks ago I saw a negro boy, aged 5 years, who exhibited extensive, exuberant granulations of both lids. Close inquiry elicited the fact that the lids had never entirely recovered from what had probably been an attack of ophthalmia neonatorum. This is the nearest approach to a suspicion of trachoma that has come under my observation in the negro race.

My colleague, Dr. William H. Sanders of Mobile, now state health officer of Alabama, tells me that in an experience of about thirty years he can not recall a single instance of a well-defined case of trachoma in a negro.

While considering our form of trachoma as less severe than in many other localities, no evidence is present to cause doubt of its ready contagion. Usually more than one member of a family is affected.

While in the northern and eastern cities much has already been accomplished to curtail the ravages of trachoma, I have yet to hear of a southern municipality whose boards of health have inaugurated any system of

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

inspection at all adequate for its recognition, much less its exclusion from their public schools.

The disease is becoming more prevalent. For, although my percentage of patients handled has not been appreciably greater, I have seen more cases of trachoma among school children within the past eight months than during the preceding two years.

In view of the fact that the laws of the United States recognize trachoma as a contagious disease, denying the right of admission to immigrants suffering from it; that health authorities of New York city exclude children suffering from trachoma from the public schools, it is quite time that all of our health boards should take cognizance of its existence in their midst, and should inaugurate the necessary steps to control its further spread.

The number of therapeutic agents whose proven efficiency in combating eye diseases renders their use almost universal, is infinitely limited. Twenty familiar names would fill the list ordinarily used by the ophthalmologist. New remedies, promising much, fulfilling but little, are constantly coming under notice.

We can be well satisfied if one in twenty, even one in fifty, of these new agents finds a useful, permanent place in our therapeutic armamentarium.

Before the final acceptance of a new remedy it must pass the critical judgment of more than one competent observer. It is well that physicians, from the nature of their studies and environment, possess in unusual degree the analytical or critical faculty. They are loathe to accept evidence save where it is substantiated by either a wide or their own experience. Thus a safeguard exists against the too ready acceptance of new remedies. But when a recently proposed drug or agent proves beneficial they are ready to receive it gladly, so that after a longer experience it assumes its proper sphere of usefulness, and receives the esteem of a trusted and valued friend.

Cocain was once an untried drug. Which of us could practice without it? Eucain more recently has been gladly welcomed. A sense of loss would follow were adrenalin eliminated from our list.

It is unnecessary to recapitulate the well-tried remedies that are universally recognized as aids in combating trachoma. Few of us probably do not place the salts of silver, copper and alum at the head of our list. Zinc and lead, even, with their derivatives, lend us frequent aid. Used correctly in proper proportion at the right time, they all have their places. But every one of them possesses certain defects, certain limitations.

In the selection of a remedy, particularly in private practice, something more than results must be regarded. It seems to me that chief among these is the active, willing co-operation of the patients and of their families. The treatment of trachoma is, at best, long and tedious. Few patients can, with convenience, visit the physician for daily applications. Home treatment is, as a rule, submitted to badly, unwillingly and irregularly; for the applications are painful and the patient naturally reluctant to apply them.

In the new remedy which I bring before your attention I do not claim a panacea for trachoma, not even that it is in every way superior to all of our other remedies. Nor do I claim originality in its use. But, so far as my knowledge goes, I am the first man in America to give it a trial. This belief is tenable because in July, 1902, Merck informed me that he would have to import it, and I did not receive it until nearly three months later. Having used it now for seven months, its results seem to justify placing it side by side with our best remedies.

I speak of copper citrate. The points claimed for it, if I can establish them, are worthy of attention.

1. It produces absorption and disappearance of granulations and hypertrophied papillæ quite as rapidly as other applications.

2. It produces less irritation in the lids; less pain and discomfort to the patient.

3. Important, and a corollary to its almost painlessness, patients will use it regularly in home-treatment. Even a nervous mother will apply it in the eyes of her spoiled darling. What greater encomium can be pronounced on a treatment of trachoma! For we all recognize the vital importance of systematic daily applications in the eradication of this treacherous disorder.

Now let me give proper credit to Dr. F. R. Von Arlt, the originator of the copper citrate treatment. He published a short paper on the subject in the *Centralblatt für Practische Augenheilkunde*, March, 1902. Of this paper I made an English abstract, which was published in the *Mobile Medical Journal*, June, 1902. Dr. Von Arlt uses by preference silver citrate, instead of silver nitrate in cases of ophthalmia neonatorum trachoma with secretion, and other allied conditions. He was led to the trial of copper citrate on account of the analogy between copper and silver salts. His description of the salt is as follows: "Copper citrate is a light, finely divided green powder, containing 35.2 per cent. of copper. It is sparingly soluble in either cool or hot water, about 1-9,143, slightly more soluble in 1 per cent. sodium chlorid solution, i. e., about 1-7,700. It was first prepared by Guy Lussac in 1832, and so far as the author knows, its therapeutic properties have never before been utilized. At first the powder was mixed with milk-sugar (1-20 to 1-10. Later used ointment form with, as a vehicle, the ointment of glycerin with starch. He has found it specially useful in trachomatous pannus and ophthalmia neonatorum. Profuse secretions, in all cases, must first be removed by silver citrate, silver nitrate or some other similar preparation commonly used for this purpose. Contraindications are afforded by corneal ulcers and by internal or external treatment with the iodin preparations." The following statement he places in italics. With it I thoroughly agree: *"It does not cure trachoma more quickly than other non-operative methods."*

I have used the copper citrate, chiefly in early uncomplicated cases of trachoma, in the form of an ointment, the strength varying from 3 per cent. to 10 per cent., with white vaselin as a base. The results have been excellent, as the following statement of cases will show.

Of course, the period of trial (seven months) is too short to admit of a final verdict as to its curative powers. Of the cases treated only nine have been discharged as cured, while six are still under treatment, progressing quite as favorably, and with far greater personal comfort than under former methods.

During the months of September and October, 1902, I began with five cases, early in November with three, late in November with one case. These cases were all in children ranging from 5 to 14 years of age. Eight of these cases were early, simple forms of trachoma, without serious complications. One was a severe case, complicated with pannus. The eight simple cases have been discharged for a period of from four to eight weeks. At present writing seven of these cases show no sign of remaining granulations, and no scarring. In one case where the granulations were extremely large and plentiful, expression with Knapp's roller forceps preceded the applications. Here some slight scarring is noticeable.

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The case of pannus had been treated for six weeks before beginning with copper citrate ointment. The clearing of the cornea was more rapid after beginning its use. For more than three months now the opacities have almost disappeared, but a slight cloudiness remains, which will doubtless be permanent.

While the patients can open their eyes and bear the light, going about their usual duties or pleasures a few minutes after the ointment has been rubbed into the conjunctival sac, I have found that the best plan for home-treatment is to apply the remedy at bedtime, letting it remain in the eyes during the night. Only a few cases find this too irritating. The majority of patients will tolerate the application twice a day. An intercurrent coryza or febrile state necessitates the discontinuance of the ointment for a few days at least. While usually beginning with the 5 per cent. ointment, for I have practically abandoned the 3 per cent. strength, except in very nervous children where it is first necessary to obtain their confidence, I believe that the majority of patients will readily tolerate the 10 per cent. strength from the inception, just so soon as excessive secretion has been allayed by one of the silver salts.

I trust that those of you who take interest in the subject, who possess the facility of large clinical material, will ere our next meeting give copper citrate a trial in trachoma.

DISCUSSION.

Dr. James W. Dunn, Cairo, Ill.—After making the statement that I have seen two cases of genuine trachoma in what I considered to be pure blooded negroes, I would like to take up the subject of treatment of this disease. It is this that appeals to us most forcibly as practitioners, and is the feature on which we will all probably differ from the one who has just read the paper and on which you will likely differ from me.

The treatment may be divided into that used before the appearance of the granulations and that applied afterward. We can not diagnose this trouble with certainty, of course, before the granulations appear, but there is certainly an antegranulation period which lies between the beginning of the irritation produced by the cause of trachoma and the appearance of the granulations, during which we certainly have a chance to abort the disease by the application of germicidal remedies, as nitrate of silver, etc., else all of our theories that the disease depends on a germ are exploded. Indeed, I think it safe to say that all of us, many times in our practice, have aborted cases of trachoma in this stage when we simply suspected granular trouble, by the application of suitable solutions of strong germicidal agents.

After the appearance of the hyaline granulations there is nothing that remedies this morbid process with the facility and safety of the roller forceps. With this I am sure the profession generally will agree. However, I go a step further in saying that the advantage gained by the expression of the granules is not the only one. By the judicious use of this instrument we can so disturb the elements entering into the tissue organization causing the hypertrophy as to bring about the absorption of these elements themselves. It matters not whether we consider that the hypertrophy is due to the formation of new tissue from new cells, or to the conversion of one class of cells into another, certain it is that the hypertrophy and subsequent contraction can be removed and avoided in the proportion that we are able to bring about the absorption of the elements deposited in or under the conjunctiva. The roller forceps, firmly and steadily applied, can certainly assist very materially in this.

Then I may say further, that this is not the only good produced by the use of the roller forceps. In the old chronic cases their application is followed by an acute inflammatory reaction that has practically all the advantages of a jequirity inflammation without any of its disadvantages. So I almost always apply the roller forceps in trachoma. If it is an acute case, the application is made chiefly to express the contents of the hyaline granules; if it is a chronic case, the greatest desideratum may be the removal of the hypertrophy for which they are then used; but in most cases, however, both indications will obtain.

After the application of the forceps, it is not a question of choice of remedies. Any application that has a tendency to reduce inflammation will do good. Ichthargon, protargol, the milder boric acid, or the preparation the Doctor has mentioned in his paper will suffice. In conclusion, I desire to commend this method for those old chronic cases in which every kind of application seems to irritate and make matters worse—the very class of cases in which the profession at large is accustomed not to use it. The application, as I have said, is followed by an acute inflammatory process which results in less hypertrophy, and, consequently, much less contraction of tissue than would otherwise follow. So, to sum up, my method of treating trachoma is the roller forceps almost invariably, first, to express the contents of the hyaline granules and, second, to bring about absorption of the hypertrophy by producing an acute inflammatory reaction and by the mechanical disturbance of the elements undergoing the process of tissue formation in the hypertrophies.

Dr. Adolph O. Pfingst, Louisville—As to the clinical features of the case I would like to say a word about the differential diagnosis, because I think there is much obscurity in this respect. In my first observations of this disease cases were spoken of as trachoma which, according to my present ideas, were not trachoma at all. I got my first teachings in Berlin and in New York, and I believe now that the cases that were called trachoma in Berlin were not trachoma. To my mind the slight granular appearance and cell accumulation in the conjunctiva were not the follicles of true trachoma. I differ with the author as to its occurrence in Berlin. My experience was that there was very little trachoma there; mostly such cases as strayed in from Russia and Egypt. I was told there that the cases were rare and that there was doubt whether the proper diagnosis was always made. You have all seen cases where the entire lower fold of conjunctiva was filled with sago-like swellings and where the upper lid was not affected. I have seen cases of this kind called trachoma. The ready response of these cases to treatment is evidence that they are not trachoma. I have seen, with Dr. Ray, a case of true trachoma in a negro.

I congratulate the Doctor on his success with his new treatment. While the number of cases so treated is as yet small, the results are encouraging, as it is difficult to get patients to use these remedies at home which are usually employed in the treatment of trachoma. I believe that the greatest advantage of the essayist's treatment is the ease of its application.

Dr. Herbert Harlan, Baltimore—I had a very unique experience with a remedy that could not be applied in most cases. Three Russian immigrants were detained by the authorities because of the trachomatous condition of their eyes. On the second day after admission to the hospital two of them, children aged 3 and 5, broke out with measles and the disease had a most remarkable effect on the trachoma without any other treatment and in three or four weeks they were allowed to proceed to their homes. The father, however, who had had measles before, had to go through a long course of treatment. There is no doubt in my mind that the measles had a remarkable curative effect on the trachoma.

Dr. S. L. Ledbetter, Birmingham, Ala.—I see a great many cases of old cicatrization occurring as a result of trachoma that is evidently the same type we see elsewhere, but in the recent cases treated according to modern methods they get well without these bad results. The cases appear to be rarer than we are taught to believe, but I think that perhaps it is due to the treatment. I am of the opinion that trachoma is trachoma whether occurring in the North or South.

Dr. Ruffin Wright, Mobile, Ala.—I did not mean to speak of subtropical trachoma as a distinct disease, but only to imply that the type with us in the South was of a milder

form than what is seen in other localities. Regarding its prevalence in Germany, in one village where I spent the night the landlord and his whole family had the disease, and they said they did not believe there was a family in the town that had not had it.

As to the matter of its treatment in the incubation period, it is difficult to prove what a case would have been if you aborted it. I do not think much of aborting remedies; it is like aborting a case of pneumonia or typhoid fever.

As to the expression of the granulations with the roller forceps, it is only occasionally necessary, always results in more or less scarring, and unless the granulations are very large we gain nothing except to hasten the healing process.

I do not claim that copper citrate brings about more rapid absorption than the old treatment where the latter is applied daily, but I claim that it is a remedy that the patient will apply daily. There are less than 10 per cent. of cases that will come for daily treatment, and therein lies the benefit of this method of treatment.

CONTROL OF SUPPURATION IN THE ANTERIOR SEGMENT OF THE EYE.

BY THE INSERTION OF IODOFORM INTO THE ANTERIOR CHAMBER.*

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In 1897 Ostwalt introduced a method of combating purulent inflammation of the anterior segment of the eye by inserting iodoform into the anterior chamber, and he also showed that when this was done on a normal eye it was not followed by any bad effects. The method has been occasionally referred to, but in the available literature only three allusions to it could be found. Ostwalt[1] again experimented with it in 1901 by placing rods of iodoform in the anterior chamber of a rabbit's eye, and "some time later" injecting a culture of staphylococcus or streptococcus. Purulent inflammation was prevented, but not having the original paper at hand, the facts as quoted from the abstract are vague to the point of uselessness. Romer[2] reports the use of it in three cases. In two cases of staphylococcus infection of the anterior chamber its use was followed by a cure of the condition, but in a case of cataract extraction infected by a "peculiar bacillus," it did no good. In five cases Goldzieher[3] controlled suppuration by this means, but again an abstract is my authority, and there are no details. In the hope of learning something definite of this method and its limitations, the experiments which I will recite were undertaken.

The almost uniform failure of our efforts to control the progress of infection after cataract extraction is well known, and it was particularly in the management of these cases that I hoped to get some help. As the infection in these cases comes, as a rule, from without, that is, from the conjunctiva, it seemed best to try to produce experimental infection in the same way. Repeated attempts to do this by making a corneal incision and rubbing over it a culture of staphylococcus, gave but one positive result out of a dozen attempts, and the method was then abandoned. Introduction of a portion of a culture of staphylococcus by means of a platinum wire loop passed through a corneal incision gave but little better results, and was discarded for the method of injecting into the anterior chamber with a syringe either a small particle of an agar culture, rubbed up with distilled water, or a few drops of a bouillon culture. It was astonishing to note the difficulty with which a successful inoculation was achieved. Staphylococci seemed to be hardly pyogenic in rabbits, so little reaction did they usually cause. In only two eyes did they produce sufficient reaction to be of use for the purpose of this study. Injections of streptococci were more successful, but by no means uniformly so.

The iodoform rods used in these experiments were made of gelatin containing 50 per cent. of iodoform. These substances are mixed hot and poured on a clean tin plate to harden. The resulting film is then cut into the required sizes. The procedures on the eyes were carried out under local anesthesia, and with the usual antiseptic precautions.

Experiment 1.—A single iodoform rod was introduced into the normal eye of a rabbit through a puncture in the cornea near the limbus. In two minutes the gelatin had dissolved and the liberated iodoform had settled to the lower part of the chamber. On the second day it was still to be seen surrounded by a bead of clear lymph. On the third day this exudation had lessened in size, but not till the fourth day was any absorption of the iodoform apparent. On the thirteenth day it had entirely disappeared. The pupil was active and the eye entirely normal.

Experiment 2.—A pure culture of streptococcus was injected into the anterior chamber of a rabbit. The next day a mild, plastic iritis was present, but this had subsided by the fourth day, when the injection was repeated. Four days later only a slight reaction with some exudation near the corneal wound having been produced, a third injection was made. A prompt reaction followed, iritis with abundant exudation and roughness of the cornea being noted on the second day after the third injection. The cornea regained its luster and then became covered by a vascular layer like a pannus, extending from the periphery toward the center. This did not appear until the sixth day after the successful inoculation, and took ten days to completely cover the cornea. The exudation in the anterior chamber finally almost filled the chamber, leaving a little clear portion in front and behind, but touching the cornea. While in this condition on the eighteenth day after the successful inoculation the animal was killed by rats and the eye destroyed. There was no conjunctival chemosis or swelling of the lids such as we see in panophthalmitis, though the rabbit lost flesh and seemed to suffer from systemic infection.

Experiment 3.—After two unsuccessful attempts to infect with a culture of staphylococcus a drop of a culture of *Streptococcus erysipelatis* was injected into the anterior chamber. In five hours iritis with exudation was noted. On the fourth day the exudate had collected to some extent in the lower angle of the anterior chamber (hypopyon), though the aqueous was never very clear. On the fifth day the pannus began to show at the corneal periphery. On the seventh day two iodoform rods were introduced into the anterior chamber through an incision near the limbus. These were invisible after 24 hours. No material change being noted in the eye, two more rods were introduced on the ninth day. The pannus continued to advance and the exudation in the anterior chamber to increase. On the nineteenth day the cornea was covered by the pannus and was bulging from the pressure of the exudation. On the twenty-first day the cornea sloughed, the slough separating on the twenty-second day, exposing a white, pasty mass in the anterior chamber, a culture of which showed streptococci in a state of division. The eye cicatrized and healed, a large scar occupying the site of the cornea. There was never the clinical picture of panophthalmitis as we see it in the human eye. The rabbit emaciated considerably and died. A culture of the blood made during life showed streptococci.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Zeitsch. f. Augenheilk., vi, 194. Abst. in Archives of Ophth., xxxi, 300.
2. German Ophth. Soc., 1901. Arch. Ophth., xxxi, 44.
3. Centralbl. f. Augenheilk., xxv, 71. Arch. Ophth., xxx, 685.

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Experiment 4.—Inoculation by injecting a few drops of a culture of *Streptococcus pyogenes* into the anterior chamber. Iritis appeared on the second day, with cloudiness of the aqueous and the appearance on the fourth day of a mass of exudation in the anterior chamber near the wound of inoculation, together with a hypopyon in the lower angle of the chamber. On the fifth day the pannus before mentioned began to spread over the cornea, and on this day two iodoform rods were put into the anterior chamber. Tenth day, no change noted till to-day, when an additional yellowish mass of exudate was seen on the iris below the pupil, while above the pupil was a larger clear mass like the exudate seen in spongy iritis. The cornea and aqueous seemed clearer. Three more rods were put into the chamber. The next day (eleventh day) eight or ten small yellow nodules were seen on the iris, aqueous clearer. The vascularity on the cornea had advanced. On the thirteenth day, no further change being apparent, four more rods were put into the chamber; fifteenth day, no change except the pannus was much less dense. On the nineteenth day a decided clearing of the cornea had taken place, and the exudation was somewhat hour-glass shaped, with the smallest part in front of the pupil. Twenty-first day, cornea about clear, pupil occluded and the exudate was an oval yellowish body. Twenty-third day, except for a small central mass about as long as the diameter of the normal pupil, the anterior chamber was clear. Twenty-seventh day, the rabbit died. A section of the eye is shown. A culture of the blood on the twentieth day showed streptococci. There was emaciation and evidence of systemic infection.

Experiment 5.—Three injections of a culture of streptococcus were made before more than a slight irritation was produced. The reaction appeared on the third day after the successful inoculation, whereas it had, in other experiments, appeared on the first or second day. The reaction was marked on that day, with an abundant diffuse exudation into the chamber. Four iodoform rods were introduced. Fourth day, the exudation was thicker and settling as an hypopyon below and forming a mass above near the wound of inoculation. Put in two more rods. Fifth day, some of the iodoform put in on the preceding day was still visible. No change in the condition of the eye. Put in two more rods. Eighth day, the iodoform put in the eye on the fourth day was absorbed, but that put in on the fifth day was not entirely absorbed. The pannus had advanced but very little on the cornea and the exudation masses were decidedly less in quantity and less dense. Ninth day, the eye looked clearer, the exudation showing only as a slender oval mass in the center of the chamber. Tenth day, the mass of exudate was but one-half as large as on the preceding day. It was rounded and about the size of the normal pupil. The rabbit was killed by rats that night and the eyes destroyed. Systemic infection had apparently occurred from a previous experiment (No. 2), but for the last week of his life the animal was livelier, ate better and seemed likely to live.

Experiment 6.—Inoculation by means of a platinum loop with a culture of *Staphylococcus albus*. There was prompt reaction on the second day, with iritis and exudation into the anterior chamber, which soon collected into masses above and below the pupil. On the eighth day some of this exudation was removed with forceps through a peripheral corneal incision and an attempt made to wash out the chamber, without much success, owing to the thick, tenacious character of the exudation. This produced no change in the eye, and on the eleventh day two iodoform rods were introduced into the chamber. The pannus already referred to had appeared on the seventh day. The iodoform was not visible after 24 hours, and no change in the eye being noted, two more rods were put in on the fourteenth day. Nineteenth day, pannus covered the whole cornea, but had become less dense. No other change. Twenty-second day, cornea much clearer. The exudation in the chamber was a central mass the shape of the crystalline lens and about two-thirds as large. Twenty-fifth day, exudation mass had settled a little towards the lower angle and pressed against the cornea, which bulged slightly. Forty-fourth day, exudation still shrinking. Seventy-seventh day, the cornea was diffusely cloudy. The exudation had become a little smaller, being then about 2 mm. in diameter. A few vessels ran in the cornea from above to the spot where the exudate touched the cornea. No fundus reflex.

Experiment 7.—Injection of a culture of staphylococcus producing but slight reaction, it was repeated on the following day with a positive result on the second day after the second injection. Two rods put in the eye on the eighth day. Tenth day, the exudation masses were smaller. Twelfth day, put two more rods in the eye. Seventeenth day, pannus completely covered the eye. The exudation masses in the anterior chamber appeared to be changed into connective tissue. They changed color from yellow to white, and small radiating bands appeared around them. Thirty-eighth day, the cornea was diffusely opaque and on its posterior surface and in the chamber elsewhere were a few small, white masses. The pupil is occluded, but the rabbit sees and is fat and well.

SUMMARY OF RESULTS.

Iodoform used in three cases of streptococcus infection. One failure, two successes.

Iodoform used in two cases of staphylococcus infection. Two successes.

One case of streptococcus infection not treated. The animal was destroyed at a time when sloughing of the cornea appeared imminent.

In addition to these experimental cases, I wish to record one clinical case in this connection:

CASE 1.—H. D., a negro man, 58 years old, but who looked at least ten years older, was seen in February, 1902. He had a double cataract, mature in both eyes. The left eye had failed first, in 1897, the right in 1901. There was a very marked arcus senilis in both eyes, and in the left additional rounded opacities in the cornea down and in and down and out from the center. The eyes were otherwise normal; urine normal. The operation of extraction with iridectomy was done on the left eye on February 13 in the ward of a general hospital. The corneal section lay in the arcus. The operation was normal in every way and healing was prompt.

February 21 the right eye was operated on in the same way. The only difference in the two operations was that in the last eye (right) there was more soft cortical substance brushed off the lens in its delivery. On the morning of the third day the wound was closed and a slight mucopurulent conjunctivitis was present, but as this had also appeared in the other eye after the operation and did no harm, no special thought was given it. At 5:30 that afternoon I went to the hospital and found that, it being Sunday, the nurse had two wards to look after and had been detained in the other ward. My patient had removed the dressings from the eye and had rolled over on the pillow with the eye underneath. There was an increase in the amount of secretion from the eye and the wound showed marked infiltration of its edges. Iodoform was dusted into the eye and the organ was directed to be bathed in an antiseptic solution frequently. The next morning the discharge was more profuse, the edges of the wound were quite yellow and the anterior chamber near the wound contained a yellow exudation. Aqueous very cloudy and whole cornea slightly hazy. A culture showed *Staphylococcus albus*. At 2 p. m. the wound was reopened and an attempt made to introduce some iodoform powder into the chamber, no rods being available. The manipulation was very difficult, and only after prolonged efforts was an appreciable amount of the powder gotten into the eye. It did no good whatever, and was not repeated. The cornea became infiltrated and sloughed, the eye subsequently undergoing atrophy, and was enucleated a few months later.

This case occurred before I had undertaken these experiments. I now know with how much more ease the iodoform can be handled in the shape of the rods, and also the necessity of its early and repeated use.

In regard to the technic of the introduction of these rods into the eye, it presents no difficulties at all. A peripheral incision in the cornea is made and the rod caught at one end with any fine forceps and pushed into

the eye. It should enter the eye completely, leaving no part protruding. The gelatin softens very quickly on exposure to moisture, necessitating quick handling of it.

While the value of this procedure as a therapeutic measure does not seem to be brilliant, judging from the results of these experiments, we must not, in forming an opinion, lose sight of the almost hopeless nature of these cases under any other form of treatment. It appears to me to have a very distinct field of usefulness, and apparently has no possibilities for harm. To be of any value, it must be used early, probably on the first, certainly not later than the second day after infection, and should be repeated daily until positive improvement is manifest, or until its failure to control the condition is apparent. With small rods the dose should be three or four rods. It would be best to use at the same time such local antiseptic and general supporting measures as our experience has shown to possess some value.

DISCUSSION.

DR. E. A. SHUMWAY, Philadelphia—The subject of the treatment of infected wounds of the eyeballs is of very great importance, especially to those who live in manufacturing districts, where the number of accidents is large, and any method which will help us save such infected eyes and make the prognosis less grave should be welcomed as a step in advance in ophthalmic surgery. The use of iodoform within the eyeballs seems to have established itself firmly as a recognized mode of procedure. Ostwalt's experiments in 1897 showed that not only was iodoform well borne in the anterior chamber, but that it had a very decided action in checking the infectious process, especially when the lens was uninjured. Since then many favorable cases have been reported by Haab, Mayweg, Wüsterfeld and Goldzieher, from the introduction of the rods into the anterior chamber; and following the results of Ollendorff good results have been achieved by Schmidt, Wokenius, Haab and Römer by the use of the rods in the vitreous.

In this connection I would like to place on record two cases which were seen at the University Hospital in Philadelphia, this winter, in the service of Dr. Geo. E. de Schweinitz, to whose courtesy I am indebted for the privilege of reporting them.

CASE 1.—J. B., aged 55, was sent to the hospital Oct. 10, 1902, for injury to the left eyeball, produced by a piece of flying metal, which struck the eye while he was working in a blacksmith shop, on the day previous. Examination showed a linear wound of the cornea, and commencing cataract. Under cocain anesthesia Sweet's magnet was applied to the eye, and almost immediately the lens was seen to bulge, and a piece of steel emerged from it into the anterior chamber. On enlarging the wound in the cornea, the foreign body was withdrawn from the eye without difficulty. Atropin was instilled, the eye bandaged and ice cold compresses were applied to the eye through the bandage. Calomel was given in doses of 1/6 gr. every hour. During the following night the pain was severe, and required hypodermics of morphia. Examination on the next day showed decided chemosis of the conjunctiva, injection of the eyeball, and bulging of the lens into the anterior chamber. The corneal wound was again opened, and following Randolph's advice, the opaque lens matter was evacuated, as far as possible, the chemotic conjunctiva freely incised, and the conjunctival sac dusted with powdered iodoform. On the following day (the fourth day after the accident) three sterilized iodoform rods were inserted by means of forceps into the anterior chamber. These rods were made by Shinn and Baer, local druggists, and measured 6 mm. in length, by 2 mm. by 1 mm. They were composed of 70 per cent. iodoform and 30 per cent. gelatin. The iced compresses were continued and atropin instilled regularly. The pain lessened at once after the evacuation of the lens, but three days later, as there was still considerable injection, two more rods were inserted. The eye then gradually quieted down, so that the man could be sent to his home October 28, eighteen days after admission, with a slightly flushed eye, which was beginning to shrink. He was seen at the hospital about four weeks later, and at this time the eye was commencing to assume a quadrate form, but was entirely quiet and caused no pain. With the strict injunction to report immediately to his doctor, if the fellow eye began to fail in any way, he was allowed to return home, with a sightless, somewhat shrunken eye.

CASE 2.—B. B., aged 24, was struck in the right eye by a flying fragment of stone, which was chipped off by a chisel that he was using. The accident had occurred five days before, and in the interval he had been treated by his physician with iced compresses and instillations of atropin. The eye was decidedly injected, the cornea showed a yellowish infiltration of its lower one-half, and the anterior chamber was partly filled with a yellowish exudate. No details of the lens or iris could be made out. The magnet was applied to the eye, but no metallic foreign body could be detected. Iodoform was dusted into the conjunctival sac, atropin instilled and iced compresses were applied. As in Case 1, calomel was given every hour, and subsequently sodium salicylate, a dram daily, in divided doses. March 5, three days after admission, and eight days after the accident, there was still intense injection of the eyeball, infiltration of the cornea and anterior chamber with exudate, and bulging forward of the cataractous lens. The corneal wound was accordingly reopened at the clinic, the opaque lens matter and viscid exudate removed, so far as possible, and two rods of iodoform introduced into the anterior chamber. On the two succeeding nights the pain was very intense, necessitating the use of codeia and morphia, and the question of enucleation, or evisceration, was debated. But under the persistent use of iced compresses, atropin and salicylate of soda, the cyclitis gradually subsided. March 16, two weeks after admission, the inflammatory exudate had been absorbed except in the pupillary area slight cyclitis was still present, but there was no pain. The infectious process had been checked, and the patient was discharged eight days later, March 24. Since then he has been under observation at the clinic. The eyeball shows a decided flattening of its anterior portion, and a slight remaining ciliary flush. Vision is zero.

In other words, we had two badly infected wounds of the anterior part of the eyeball, in which the lens was injured, which, according to Ostwalt's experiments, is always a serious complication, as the swollen cortex seems to act as a good culture medium for the growth of the infectious organisms, in which the infectious process was checked, and the eye gradually quieted. The patients, workmen, were able to retain the eyeballs, which, although somewhat distorted and sightless, were painless, free from danger to the fellow eye, and better for them than a glass eye. It is, of course, difficult to say how much credit should be given to the iodoform, and we are too prone to ascribe all good results to some new method of treatment, but so many favorable reports have been made that I think we are justified in giving the method further trial.

Of the other methods which have been tried, subconjunctival injections of various drugs have proved of little value, experimentally at least. On the other hand, the use of intraocular galvano-cauterization, introduced by von Millingen in 1899, has, by virtue of the success reported by von Millingen, Roscher, Baumler and Zentmayer, established its claim of being of very great service in checking the infection by destroying the organisms in the lips of the wounds and along the back of the infiltrating process, and as there is no reason to prevent the use of both methods in the same patient, it seems to me we would secure the best results by cauterizing the wound and the infiltrated areas by means of the actual cautery, and then introducing the iodoform. The best way of introducing the iodoform is by means of the rods. It is almost impossible to prevent the powdered drug from being washed out of the anterior chamber, as the instrument used for this purpose is withdrawn. Pure compressed rods of iodoform would be best, but it is apparently impossible to make them without the use of some agglutinating material. It is of great importance, also, to evacuate the opaque lens cortex if the lens is injured,

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and vigorous internal medication should not be neglected. Salicylate of sodium has proved of great value in large doses, and the recent remarkable results of Schirmer, who was able to show 60 per cent. of recoveries in cases of uveitis fibrinosa and 65 per cent. for uveitis purulenta by means of large doses of mercury, prove the remarkable efficacy of this line of treatment.

Dr. Frank Allport, Chicago—I have found considerable difficulty in securing the discs or rods. Professor Haab left me a bottle of them, which I have used, and I have been unable to have them properly made. I tried the Parke, Davis people and one or two other houses, but the results were always unsatisfactory. I am glad to have heard Dr. Shumway's discussion of this subject and his method of using the iodoform and gelatin.

Another difficulty that I have had is how to make these rods aseptic. As I understand it iodoform in itself is not necessarily aseptic and I have endeavored to render the discs and rods so in various ways, but have not been very successful, because the efforts to sterilize them has always resulted in making them difficult to handle. For instance, if you attempt to sterilize them in the sterilizer by means of heat, or more certainly if by steam, they become so limp that you can not handle them. So I have simply used them as I got them out of the bottle and have not noticed any ill effects; in fact, I have used them a number of times and have obtained very good results. Whether it was really due to the iodoform or not I could not say. In the cases where the iodoform discs seemed applicable I also, as a matter of precaution, followed the teachings of Dr. Gifford in giving heavy doses of salicylate of sodium, 1 gr. to every pound of weight, and I have had good results in the treatment of the cases where the iodoform seemed applicable, but as I say, whether due to the use of the iodoform or the salicylate of soda, or other treatment, I can not say. At all events my results have been good. I use the iodoform discs as a routine practice where I extract steel from the eye with the Haab magnet, which is the one I always use, whether there seems to be indication for it or not. After removing the steel I insert one of the iodoform discs and put the patient on heavy doses of salicylate of soda, and while I, of course, do not always get useful eyes (I sometimes get atrophied ones), I seldom have panophthalmitis, and I am inclined to attribute it to the iodoform or the salicylate of soda. I believe the iodoform to be a good method of treatment, but I have not confined myself altogether to the use of the discs; I have also used an emulsion of iodoform, injecting it by means of the Pannus syringe, and I think I have secured as good results with it as with the discs.

Dr. G. E. de Schweinitz, Philadelphia—The iodoform rods referred to by Dr. Shumway were made by Mr. Baer, a pharmacist of distinction in Philadelphia. Sterilization of the iodoform may be secured by washing the drug in a solution of bichlorid of mercury and subsequently drying it, but it does not make a great deal of difference when used in a highly infected eye whether the iodoform is sterilized in this or other manner.

My experience is too limited to give an opinion as to the value of this treatment, but I would like to emphasize Dr. Shumway's remarks as to the intense pain that was produced the night following their introduction. Whether this was due to some fault in my technic, or in the manufacture of the rods, I do not know, but the pain was certainly severe. The eyeballs thus treated gave evidence of approaching panophthalmitis. This dreaded result was averted; one resulting in partial phthisis bulbi, and the other in an adherent leucoma. Both patients were highly content at not having to submit to an enucleation.

Dr. J. H. Claiborne, Jr., New York—I take it that the purpose of these experiments was to combat any inflammation that might result after cataract extraction, or injury to the anterior part of the eye. In this connection I would like to make a preliminary report on some experiments which Dr. E. B. Coburn and myself have been conducting.

Following the recent instance, with which we are all familiar, of a gynecologic patient suffering with severe streptococcic infection, being treated with formalin, we made some experiments on the eyeballs of rabbits infected with streptococci. We injected a pure culture into the posterior chamber and conducted three experiments. In the first rabbit we injected, subsequently to the infection, formalin 1 to 5,000 into the vitreous humor; in the second the same solution into the capsule of Tenon; in the third no injection. The rabbit not treated recovered from the infection we had given it. The one injected in the capsule of Tenon recovered, while the one with injection in the vitreous chamber went straight to destruction. We then passed the streptococci through another growth, it being a well-known fact that the second growth is much more virulent than the first. All the eyes subsequently injected went straight to destruction. One thing proved was this, that streptococci can sometimes be introduced into the eye permanently without any bad effect, which fact accounts for the independent recovery of some of the infected cases we see.

In order that our experiments might be in the line of infections following operations, we took an infected rusty nail and thrust it into the anterior chamber and ciliary body. These cases all went to destruction at once. We then tried injections of formalin 1 to 500, but with no effect.

These experiments, it seems to me, are most commendable because if there is one bugbear for ophthalmologists it is the secondary inflammations following cataract extractions. I never perform a cataract extraction that I do not have cold chills for a day or two following. So, if any light can be thrown on the subject it is to be commended. The results shown in these reports are not very brilliant, but they are in the line of investigation. I think that some other agent should be tried, and would suggest the use of formalin 1 to 500, or 250, as soon as the symptoms of suppuration commence.

Dr. Albert B. Hale, Chicago—One remark was made that I do not like to see go unchallenged; that is, that it would be well to combine the use of the galvano-cautery with the insertion of the iodoform rods. The idea in using the rods is to preserve the eyeball, while the result of the cautery is destruction absolutely. We know how completely it destroys tissue and what a scar results. If we use the cautery we destroy a large part of the area which we want to heal normally. If we can get success with the rods the cornea is normal and clear.

I am not quite convinced myself of the good results obtained when vision is nothing. It is only a surgical experiment that has resulted with surgical success, but leaves the patient no better off, and time would have been gained by enucleating the eyeball at once. Of course it may go on for some years without causing trouble, but I am in favor of removing the ball when it is of no use to the individual.

Dr. E. C. Ellett, Memphis—The rods I made use of were 50 per cent. iodoform in gelatin. That strength, of course, was arbitrary; I had no special reason for making them that way, but it makes an easy rod to handle. The attempts at sterilization were by heat. The mixture of iodoform and gelatin was heated to a sufficient degree to sterilize, and then poured out on sterile tin plates, and when cool cut and the rods made. These were put into sterile containers and used without further preparation.

CONDITION OF THE ENDOMETRIUM IN CASES OF UTERINE MYOMATA.*

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CERVIX.

As a rule the cervical mucosa shows no change. Occasionally, however, cervical polypi are present or the cervical glands may be moderately or markedly dilated. In rare instances true cervical erosion, in other words an ulceration of the cervix, exists, and now and then squamous-cell carcinoma or adenocarcinoma of the cervix

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

may be associated with myomata. Where the cervix is much lengthened out the glands are often unraveled. We then note the squamous epithelium of the cervix alternating with that of the unfolded glands.

BODY.

Endometritis is occasionally found; when present it is almost invariably associated with inflammatory changes in the adnexa.

Tuberculosis is not uncommon, but while sometimes occurring independently, is usually associated with similar processes in the fallopian tubes.

Finger-like or dome-like projections from the mucosa have been seen from time to time, and also other pictures more or less suggestive of a malignant change.

Adenocarcinoma of the body of the uterus is quite frequently associated with myomata, as we have noted elsewhere. In the majority of cases it was not suspected.

While any of the foregoing conditions may exist, yet in nearly all instances the changes present are entirely mechanical. If myomata are subperitoneal or intraligamentary, the mucosa is usually normal, provided the tubes are unaltered. When a nodule impinges on the cavity the mucosa over the most prominent part becomes stretched and thinned out. This progresses until eventually there is nothing but the surface epithelium covering the nodule. While this atrophy is increasing the mucosa in the depressions at the sides remains unaltered or becomes thicker. This thickening is occasionally due to simple gland hypertrophy. Portions of the mucosa are often mechanically forced out into the cavity, producing polypi. With the distortion of the mucosa the glands sometimes become blocked, producing small cystic dilatations. The glands of the mucosa are sometimes much dilated, and not infrequently there is considerable edema. When the myoma becomes entirely submucous it is usually covered by a thin layer of mucosa, but in a few instances we have seen a sloughing cavity in the myoma opening directly into the uterine cavity. Now and then a submucous myoma from the posterior wall will blend with the similar nodule in the anterior wall, obliterating the mucosa entirely over a given area.

From an examination of a great many specimens we can lay down the general rule that where the fallopian tubes are normal and where no sloughing submucous myoma is present, that the uterine mucosa will be perfectly normal or show simple mechanical changes. The import to the surgeon is that where such favorable conditions are present he can do a myomectomy, opening, if necessary, a large part of the uterine cavity with little danger of infection. On the other hand, if the tubes be adherent, or a sloughing submucous myoma be present, complete removal of the uterus is indicated, the sloughing submucous nodule, of course, being removed some time prior to performing the hysterectomy.

These results are based on the gross or histologic examination of nearly one thousand cases.

Properties of Hydrogen Peroxid.—A good make of hydrogen dioxid is an efficient disinfectant and the best deodorant known. It will even banish the odor of putrid standing urine. It also arrests parenchymatous hemorrhage, and its efficacy in cleaning out wounds and loosening adherent dressings is bringing it more and more into use. It bleaches hairs, banishes freckles and is the only effective antidote known for hydrocyanic acid. It is also an excellent cleansing material for instruments, checking bacterial development.—*Allg. Med. Ct.-Ztg.*, lxxii, p. 195.

THE ILL-HEALTH OF RICHARD WAGNER.

GEORGE M. GOULD, M.D.
PHILADELPHIA.

(*Concluded from p. 297.*)

By no means is he out of the wood with his nerves, for he has to send apologies through Uhlig to another correspondent next day for not answering at once: "That sort of letter always takes a deal out of me." Not a word about the poem; nor in that to Liszt on the morrow, October 13.

"Nothing further to-day. Used up as I am, it would only be lame. . . . Your old tormentor, Richard Wagner." On the 14th, just three days after the "forced pause" has been made in his poem, the migraine seems to have renewed its attack: "I wanted to work, but felt so ill that I had to pass the whole forenoon on the divan, half asleep, half awake. There'll have to be an alteration in me."

That I have been unable to work to-day has terribly depressed me! How I should have liked a couple of days' outing—but the weather is too vile—regular 2d December!"

So Rheingold is half finished, apparently by October 10. That half has taken something like four weeks to versify, or as long as the whole of die Walküre last June, owing to its author's wretched health compelling him to work in snippets. And it must have been followed by another acute relapse, since not a line stands written to any of his correspondents between the 14th of October and the end of that month. November 1 we again hear of the poem at last, in terms that suggest its having been resumed about a week previously: "You'll get but a half a dozen lines to-day, dear friend (U.). After some interruption (through being unwell) I have arrived at devoting all my power of application exclusively to the completion of 'Rheingold,' and shall not stop myself to write long letters before I'm through with it. That, however, will be during the course of this week, at the end of which I therefore promise you a proper letter." November, 1852, began with Monday; by the 3d or 4th, then, "Das Rheingold" was finished as to its verses; for Uhlig is told on the 10th, "The middle of last week I completed my work, very much exhausted." Scarcely more than ten days can this second half of Rheingold have taken him, so that he must have doubled his "little hour" of late. As a matter of fact, the next letter to Uhlig will satisfy our minutest curiosity even on that point: "The postman comes at 11 every morning; I usually work from 9 o'clock until that hour, and therefore am already somewhat tired and in need of rest when my letters arrive. This places me in the alternative of either not answering at all or doing it as briefly as possible. If I put it off it's precisely the same next day, unless I stop my work entirely for one morning as happens when I mean to write a longish letter. From noon till bedtime I never write another line, except in the most pressing emergency."

When the poems of "Young Siegfried" and the "Walküre" were finished we found their author giving vent to the utmost joy; there is nothing of the kind to celebrate the consummation of the Rheingold poem. Partly due to the fateful lesson of the work itself, the greater share of this lack of elation must be assigned to the same cause that had impeded the poem's progress: excessive nerve fatigue. The letter that announces the event to Uhlig—and a very long letter it is, as a rest is being taken—for the most part consists of reflection on death and diet: "Let us be reasonable, dear friend, and recognize in utmost calm that every one of us bears within himself the genetic seeds of his own death, and that the only question is how to stave off that specific death as long as possible. With myself, e. g., everything tends to death through nerve consumption. . . . So long as I still have an object in life I wish to keep death from my throat, and for that reason adopt all feasible expedients to preserve myself. I purposely avoid all over-exertion, step out of the way of all over-excitement as much as possible, try to regulate my feeding and digestion, and aim above all at the utmost comfort, repose, agreeable impressions—so far as I can. I'm assured by many that I still may jog along awhile if I strictly observe this diet, and

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analogies are making it credible even to myself. . . . Simple foodstuffs are not for such as you and me; we need the complex substances that offer the utmost nourishment with the smallest demand on the power of digestion. Our rule should be to eat often, little and good, at the same time to avoid all great exertion, even in bodily movements, but be careful for comfort and agreeable rest." It is the valetudinarian's gospel; but, when the invalid happens to have such an "object in life" before him as the composition of a "Ring des Nibelungen," it becomes his absolute duty to take care of himself for sake of the world.

The announcement of the previous day to Liszt (November 9) is more plainly despondent in tone, shadowed as it is by the failure of the Berlin scheme for Tannhäuser, the history of which precedes it in this letter. "With myself things are going from bad to worse each day; 'tis an indescribably good-for-nothing life I'm living! Of actual enjoyment of life I know absolutely nothing; to me the 'pleasure of life, of love' is purely a matter of imagination, not of experience. So my heart has had to pass into my brain, and my life to become a mere artificial one; only as 'artist' can I still live; into the artist has my whole 'man' been resolved.

"If I take account of my wretched state now normal to me, I can not but deem my nerves ruined; strange to say, however, these nerves do me the most wonderful service when put to it when sufficiently fine incentives come to me; then I have a clearness of vision, a sense of pleasure in perceiving and creating such as I never knew before. Ought I to call my nerves ruined then? I can not. Only, I see that—in the way my nature has developed—its normal state is exaltation, whereas the ordinary calm is abnormal to it."[2] 1852.

The same complaint of nerve fatigue that formed a running accompaniment to the Rheingold poem ushers in the revision of the two Siegfrieds: "I must stop; my head's getting bad." November, 1852.

Uninterrupted work has again strongly affected me, and the nerves of my brain are so overwrought that even these few lines put me in a state of violent excitement, wherefore I must ask you not to be angry if I make them very short. June, 1852.

I feel that I am still capable of doing good things, but only by keeping very strict diet, and especially by frequently interrupting my work and entirely diverting my thoughts before going on again. *Do.*

The "Valkyrie," the poem of which I finished on July 1, I wrote in four weeks; if I had spent eight weeks over it I should now feel better. In future I must adopt this course. *Do.*

Unfortunately, I can not reply to your letter as I should like to do; the nerves of my brain are once more in a state of great suffering, and for some time I ought to give up all reading and writing, I might say, all mental existence. Even the shortest letter wearies me terribly. . . . I only wish to explain to you why it is that to-day I must limit my communication to stating briefly what is absolutely necessary. . . . The work has been a perfect torture to me. This eternal communication by letter and print is terrible to me. September, 1852.

My nerves are not in the best condition, but I have begun again to work at my poem for an hour or so every day. October, 1852.

I am going from bad to worse every day, and lead an indescribably worthless life. . . . Perhaps you will soon be rid of me. November, 1852.

My terrible melancholy. January, 1853.

In case I should die during the work. February, 1853.

How long I shall endure this terrible joylessness I can not tell. About the middle of last month I was on the point of succumbing, and thought that I should soon have to follow my poor Uhlig. I was persuaded to call in a doctor, and he, a careful, considerate and conscientious man, takes much trouble with me. He visits me nearly every other day, and I can not but approve of his treatment. Certain it is that if I do not recover it will not be his fault. . . . For me there is no salvation but *death*. Would that it found me in a storm at sea, not on a sick bed. February 11, 1853.

I can only live in extremes—great activity and excitement and—most perfect calm. March 4, 1853.

My nights are mostly sleepless. March, 1853.

Whether the cure has been of any use to me the future must show, but on the whole I am not inclined to repeat it. At St. Moritz, July, 1853.

The foolish man wants to hear something from me about his book, but as soon as I bend my head a little towards theory the nerves of my brain begin to ache violently and I feel quite ill. *Do.*

Truly writing is a misery, and men of our sort should not write at all. Aug. 7, 1853.

I am in a miserable condition, and have great difficulty in persuading myself that it must go on like this, and that would it not really be more moral to put an end to this disgraceful kind of life. . . . To cure my sick brain the doctor has prevailed on me to give up taking snuff altogether; for the last six days I have not taken a single pinch, which only he can appreciate who is himself as passionate a snuff-taker as I was. Only now I begin to perceive that snuff was the solitary real enjoyment that I had occasionally, and now I give that up, too. August, 1853.

I am back again in Zurich, unwell, low-spirited, ready to die. . . . At Genoa I became ill, etc. September, 1853.

I have many things to tell you, but my head is burning. There is something wrong with me; and sometimes with lightning-like rapidity the thought flashes through me that it would be better after all if I died. December, 1853.

The Rheingold is done, but I also am done for. January, 1854.

I went to this music (Rheingold) with so much faith, so much joy; and with a true fury of despair I continued, and have at last finished it. *Do.*

With my terrible care my violent nervous disorder has also returned. *Do.*

. . this having to make a clean copy kills me. . . . the continual writing tires me to such an extent that I feel quite ill and lose the inclination for real work. March, 1854.

This dislike of work (composition) is the worst feature of all. I feel as if with it eternal night were closing around me. May, 1855.

My frequent nervous headaches. Letter to Wesedonck from London, 1855.

My mental disharmony is indescribable; sometimes I stare at my paper for days together,[3] without remembrance, or thought, or liking for my work. Letter to Liszt, July, 1855.

After much trouble the first half of the Valkyrie, including a clean copy, has been finished. . . . For the last week indisposition has prevented me from doing anything, and if this goes on I almost doubt whether I shall be able to finish this work from the sketches. *Do.*

I am making a tentative effort to rise from the sick bed on which I have lain again exactly three weeks . . . I have suffered from continual attacks of erysipelas of the face. December, 1855.

I am again, or rather still, unwell and incapable of anything. January, 1856.

I am continually at war with my health and fear a relapse at any time. *Do.*

I am waiting to see what my health will do; my doctor wants to send me to some watering-place, but to this I will not and can not agree. During 1856.

Again on a sick bed. To-day I am scarcely recovered, and fear another relapse. . . If I could only be well again! . . Another attack of erysipelas. . . This abominable illness has brought me very low. . . The slightest disorder of my stomach immediately affects my complaint. *Do.*

In that terrible month of May I was able only to look at your scores with a tired eye, and as through dark clouds. *Do.*

2. Compare this with the experience of Carlyle (v, p. 70, *Biographic Clinics*), who in the same way and from the same reason had to work "in a red-hot element," "with his heart's blood in a state of fevered tension," etc.

3. Compare similar expression by Carlyle.

My only care now is the perfect recovery of my health. *Do.*

God knows I castigate my flesh by this cure . . . placed myself under Dr. Vaillant who conducts a hydropathic establishment here. . . . I feel sure of being completely cured of my ailment, which, after all, was caused by nervousness. July, 1856.

During my cure I must not think of doing any work. *Do.*

My catarrh has developed so that I may hope it will rid me of my usual winter illness. My health, too, is once more so bad that for ten days after I had finished the sketch for the first act of Siegfried I was literally not able to write a single bar without being driven away from my work by a most alarming headache. Every morning I sit down, stare at the paper, and am glad enough when I get as far as reading Walter Scott. The fact is I have once more overtaxed myself, and how am I to recover my strength? With Rheingold I got on well enough but the Valkyrie caused me much pain. At present my nervous system resembles a pianoforte very much out of tune. January, 1857.

Imagine that for a week and a half I have not been able to move from my chair. This illness was just what was required to finish me up. I had just resumed my work a little after a gastric and nervous indisposition, when I was obliged to give in again. December, 1858.

The weather is bad; I am absolutely alone, and seldom in the right mood for work. So I drag on amidst mists and moods. 1858.

My health still gives me much trouble. 1859.

My health is ruined for want of life and action. *Do.*

The last act of this child of sorrow (Tristan) is now on the verge of "to be or not to be"; a slight pressure of some spring of the vulgar fate, at whose mercy I am, might kill this child at the very moment of its birth. Everything with me depends now upon the turning of a hand; there may be a way, and there may be a stoppage, for I, my Franz, am in a bad way. . . . How miserably weak I feel as a musician. I know in my heart that I am an absolute blunderer. You ought to watch me when I am at it; now thinking "it must do after all," then going to the piano to puzzle out some wretched rubbish, and giving it up in a state of idiocy. 1859.

I feel as if I should break down in sight of the goal. Once at least every day I look at my book (Tristan) with a right good will, but my head is waste, my heart empty, and I stare at the mist and the rain clouds which, ever since I have been here, have debarred me even from the chance of shaking up my stagnant blood by pleasant exertions. . . work alone is to help me, but who is to help me to the possibility of work? 1859.

I have been severely ill these four weeks and my recovery is scarcely noticeable. I am still extremely weak. . . . I begin to perspire, and can write no more. *Do.*

I cannot write at greater length . . because I must absolutely conclude these lines. *Do.*

I am very slowly regaining my strength. What impedes my recovery, and indeed makes it impossible for the present, are the extraordinary exertions and excitements to which I have to expose my health, which is gradually coming back to me. . . . The proofs of Rheingold, which Messrs. Schott would have liked so much to have published at Christmas, have been lying on my table for seven weeks without my being able to make any progress with them. Letter to Liszt, 1860.

I seek rest and happiness no longer, but only breathing space for new labors, from which I reap the least enjoyment. 1860. Letters to M. v. M.

His exertions brought on a serious illness which threatened to develop into brain fever. Ellis, 1860.

I am doing my best, at the doctor's orders, with all kinds of strengthening diet. 1860. Letters to Wesedonck.

Through my weeks of illness. *Do.*

A night slept through from 1 to 8 a. m., is an ideal happiness to me which I only taste as an utter rarity. 1861. *Do.*

. . . traveled to the south of France by his doctor's advice. 1865. *Do.*

A doctor, whom I have consulted, recommends me Cannes. 1864. Letters to E. W.

I was hindered by terrible sickness from continuing my journey that day. *Do.* 1864.

"People often call me irascible, when I am simply ill," he used to say. (Fink.)

From 1866 to 1872 at Triebschen, Wagner displayed a creative activity which was simply incredible. (Chamberlain.)

Happiness has no history. The six years at Triebschen were the happiest of his whole life. *Do.*

Truly all our politics, diplomacy, ambition, feebleness, science—unfortunately, too, all our modern art—all these parasitic growths upon our life have no other soil upon which they flourish than our ruined stomachs. Letter to Liszt. (He seems to have thought vegetarianism "the keystone of regeneration.") We must abstain from meat and alcoholic drinks. Only adopted late in life.

I shall devote next summer to nothing but the possible recruiting of my health—for which on account of the wearing and increasing pains in my abdomen, I think of taking a very protracted course of waters at Marienbad and so on. If I find myself restored to health, etc. . . . In one of my perpetually sleepless nights I have tried to gain a little ease, etc. Letters to Heckel, 1876 (p. 99).

In 1878 a medical examination showed amyloid degeneration of the liver, spleen and kidneys. (Ellis.)

I am at the commencement of a course of waters, which may be very prolonged, etc. He had "a serious illness" in 1880. (Serious organic diseases at this time set in.) *Do.* p. 118, 1879.

Only to-day do I write you, as this mournful business had to be postponed because my health is such that my dear wife was afraid even to impart to me the news of the sudden death of your father. *Do.* p. 127, 1882.

During the last few months there was much dyspnea, especially after meals, but he was also busy writing several hours every morning. (Ellis.)

He died February 13, 1882.

The necropsy showed a much dilated stomach, internal inguinal hernia, much dilated heart, with fatty degeneration. Death occurred directly from rupture of the right ventricle.[4]

Headache, "sick headache," "dyspepsia," "nervousness," melancholy, insomnia, indescribable suffering—these were some of the more prominent symptoms that, in various mixtures, rendered so miserable the lives of DeQuincey, Carlyle, Darwin, Huxley, Browning, Whittier, Spencer and Parkman. Some had some of the symptoms all of the time, some had all of them some of the time. Wagner had all of them all of the time. All of them found these symptoms exactly proportioned to the amount of reading and writing that was attempted, and when the eyes were driven to their unphysiologic function the symptoms increased in intensity until life itself was threatened either by the disease or by the despair of the patient. Darwin and Wagner kept up the sad belief in the therapeutic uses of hydropathy all their lives. Carlyle and Parkman tried it, but soon perceived the folly of it. Every one of the eight learned that the

4. The letters to Pusinelli, published in the Bayreuther Blätter in 1902, have been kindly sent me by Mr. Ellis. They bear dates from 1843 to 1878. They begin with "I have headache," and continue with complaints of bad weather and bad health; of growing old and loss of joy (aged 33); of increase of illness; working at composition with consequent frightful suffering; with prayer for peace, peace; moans at the uselessness of life; regrets at inability to get a good photograph; sleeplessness. Baths and douches drive him nearly crazy. There is longing for his natural joyfulness; reiteration of physical and mental exhaustion; the thought of suicide; emphasis of his irritability, and of his inability to write another line, etc.

An illuminative and instructive excerpt is this: "As regards my health, I appear to those who should know as an instance of a peculiar order of men destined to a long life of work. I am very sensitive and irritable, quickly becoming feverish and perspiring, but never really ill and recovering from indisposition so soon that I seem ridiculous."

This was in 1870, when presbyopia and the release from the use of his eyes brought happiness and peace. Thenceforth there is no complaint of functional disease.

only cure or relief to be found consisted in stopping reading and writing, i. e., in non-use of the eyes at near range, and in out-of-door exercise.[5] In addition to all the affections mentioned, Wagner had the mercuric artistic temperament, endured the bitterest mental anguish from non-recognition and hate of his musical work, and he was poor. He also suffered all his life from an intercurrent affection, erysipelas, which is a disease dependent on denutrition. There can be nothing in medicine more certain than that eye-strain causes denutrition; and nothing more certain than that Wagner had terrible eye-strain.

It should be noted that Wagner was a "delicate boy," "a pale, slim little chap," needing to "pick up strength," not profiting by instruction, liking others to read to him, "preferred rambling," "roaming about the country," an excitable and fitful sleeper, shouting and talking in his sleep, etc. But the intellectual and keen mind soon realized the sense of responsibility, and the boy picks up his school work equal to the best from 9 to 14, but at 25 his features have "the look of wanness and suffering." All of which is an excellent description of eye-strain in children, and can be duplicated from oculists' case records many times.

At about 30 years of age an excess of writing work overtaxes his nerves so much that he has "often sat down and wept for a quarter of an hour at a stretch," and he is a constant victim of a feeble stomach. At this time an extreme amount of work with his pen brought on the idea of sudden death which under the same circumstances reappeared many times during his life, and seemed to drive him to suicide. The doctors warned him against work, said, "determination of blood to the head," ordered leaves of absence for three months, etc.[6]

With each increment of added accommodation-failure things go from bad to worse every year until at the age of 35 he feels "too old" for undertaking his greatest art-work. Depression and suffering, "brokendownness," always follow near-work, and especially so in winter, his "mortal enemy," when vitality was always lowered, because there was more confinement in the house, and hence more reading and writing. A hundred statements grow ever clearer and clearer that writing and reading are becoming more and more impossible, produce greater and greater suffering, and that after each opera, poem, or literary work the ill-health is more tragical. He can not even undertake "to make a copy," music-writing is "natural and easy," and yet at the very beginning of such labor he is warned that he will undermine his health. Finally "the nerves of his brain are so overwrought that the writing is reduced to two hours a day, instead of five or six as formerly, and the writing of a few lines of a letter "sets him in violent commotion." As all good oculists instruct their patients, so Wagner found by experience he had often frequently to interrupt even his two hours a day of eye-work. Every job of composition or writing "takes much out of him," and he has "to rest it off." Headache, sleeplessness, the "working by spurts," "with long interruptions," a hundred such expressions occur, and the fear of death, the longing for it, or the resolve to seek it, is constantly appearing. One could gather hundreds of such expressions as the following: "If my head were but better"; "I shall go mad"; "the sharp knife cutting into the nerve of my brain"; "feverishly tired in all my limbs"; "even this letter almost knocks me down"; "I *mustn't* write, because I can't"; "my head is nigh bursting"; "every letter knocks me terribly up"; "the nerves of my brain are so racked that I have had to give up all writing and reading for a while"; "I even work a *little* hour a day now"; "a short hour a day now off and on"; "I shall shortly go crazy"; "letter writing I am now convinced, once for all, severely taxes me, and you, therefore, may flatter yourself if I manage to fill even this sheet of paper"; "completed my work very much exhausted"; "from noon till bedtime I never wrote another line"; writing a "longish letter prevents all other work that day"; "I must stop, my head's getting bad"; "even these few lines put me in a state of violent excitement"; "I ought to give up all reading and writing"; "even the shortest letter wearies me terribly"; "my work has been a perfect torture to me"; "this eternal communication by letter and print is terrible to me"; "my terrible melancholy"; "my nights are mostly sleepless"; "as soon as I bend my head toward theory the nerves of my brain begin to ache violently, and I feel quite ill"; "truly, writing is misery, and men of our sort should not write at all"; "the Rheingold is done, but I am also done for"; "this having to make a clear copy kills me"; " I begin to perspire and can write no more"; "the proofs are lying on my table for seven weeks"; "farewell, I must stretch myself full length on the divan and close my eyes." One may excuse this poor patient for not recognizing the simplest conclusion that the eyes were at the bottom of all this suffering. One may with difficulty excuse the medical men of his day. But there is no excuse for the most cruel of crimes—the brutal obstinacy which to-day makes a few ultra-conservative physicians, and even some careless oculists, deny that such symptoms in thousands of patients are due to eye-strain, and are daily cured by its correction.

Even to-day men are wet-packed, as Wagner and Darwin were all their lives, for astigmatism. The silly superstition that there is any mysterious virtue in cold water has been, and is still, filling quacks' pockets and exhausting the vitality of numberless patients. Let one with open mind read the hydropathic histories of Darwin and Wagner, and not have his gorge rise with indig-

5. The alert-minded reader will find in his biographic reading constant proofs of the rôle of eyestrain which have hitherto escaped notice. For instance, of Adolph, the nephew of Richard Wagner, a man devoted to literary work, I find the following suggestive paragraph: "His bodily strength now commencing to fail, with the advent of maladies brought on by the sedentariness of his occupation, Adolf resumed his favorite exercise of old, long walks, which he did not abandon until a year or so before his death." "For a year and a half or more I suffered from excruciating headaches; neither the allopathic nor the homeopathic doctors, for all their promises, helped me in the slightest. Spring came; I tore myself from my work, said good-bye to thinking and trudged for several miles a day—and still am doing it in November, whenever the weather is not wet or boggy."

Perhaps a more striking case is that of Beethoven. At the age of 53, when presbyopic strain is usually at its height, says Mr. Ellis: From April to mid-August, 1823, the period in which the Ninth Symphony was actually written, Beethoven was a martyr to (neuralgic?) pain in his eyes, for the only time in his life. Nor was that all. August 16 he gives his nephew a catalogue of his various ailments, which are such that he fears "they will soon cut short the thread of life, or wear it gradually away." A few days afterwards he writes his Archduke Rudolf, from Baden, "I came here on the 13th, very ill, but am better now. I had recently been attacked again with my catarrhal affection; besides that my bowels are in the most wretched condition, and then also the trouble with my eyes; in brief, my organization was entirely shattered" (see Die Musik, 1902, pp. 1155-60). Save for the special symptom of the eyes, one might have mistaken it for Wagner writing to Uhlig.

6. As I write this a patient comes in bright and happy and healthy who two months ago was the absolute reverse of these things, and whose life had been made as miserable as that of Wagner, and from the same cause. In his melancholy and suffering his greatest danger had been suicide. Great nerve specialists had drugged him to stupor, or had "rested" him nearly to death. Luckily he escaped the hydropathist and Christian Scientists. On this same day I also receive bitter criticism from a great ophthalmic surgeon that I am an exaggerator and hobby-rider. A great rest-cure man does not even acknowledge the receipt of a complimentary copy of "Biographic Clinics." And so on.

nation! The sole good done by this nonsense to offset the enormous evil was that while shivering in dripping sheets the poor eyes and brain could not be doing reading and writing. Hence the little seeming good, the raised hopes—and the succeeding despair—when ocular strain was again resumed.

Wagner's clearest symptom was "sick headache"; migraine, megrim, hemicrania, nervous headache, or bilious headache are other names for this terrible affection. It causes a large number of other symptoms, and is itself of an infinitely varied type, according to the kind of near-work required, and the kind of organism of the patient. I have had thousands of patients with this disease, and 99 out of 100 were cured by spectacles alone. That sick headaches often disappear at the age of 50 to 60 is due solely to the fact that presbyopia makes eye-strain impossible. That the wrecked nervous system may sometimes go on exhibiting the symptoms after the exciting and direct cause has ceased, is a truism not only of medicine, but of common sense. "From 1871 onward lie had an immense amount of business to transact," writes Mr. Ellis to me, "in connection with the building of the Bayreuth theater, etc., but of specific complaint of headache I nowhere find a trace in the later years." All the symptoms of Wagner's functional diseases ended with the establishment of presbyopia. The sick headaches, melancholy, fear of death, resolve to commit suicide, nervousness, insomnia, etc., and then, not because the King of Bavaria came to the rescue of this greatest of musical geniuses, not because the bad wife went and the good one came, not because success and popularity arrived; but it was because, his wife acting as an amanuensis, etc., he was not driven to the maddening eye-labor, and because presbyopia prevented the suffering which was the result of the least of such labor. One eye at last went out of function, and this helped also to establish some relief.

In Wagner's passport he is described as "wearing glasses." Outside of that simple statement no one ever seems to have seen him doing so, or spoken of the fact.[7] Mr Ellis has proof that seems to him pretty good that he did not wear them. It is of no consequence whatever. Any spectacles he could get would have neutralized his eye-strain. Were he living to-day he would in all probability not find any oculist or physician in Germany that would help him or care to help him in the one possible and effective way. There are a hundred oculists, nerve specialists and general physicians, even in the United States, who would smile scornfully at the idea that a patient having Wagner's symptoms could be cured by the correction of his ametropia. Fortunately there are hundreds of others who know the truth, and better, who practice it.

All through the latter part of Wagner's life he had one symptom, one of those which physicians call "objective," one that is alluded to, so far as I know, by no written word. In speaking to a great musician who knew Wagner, I mentioned this symptom, when he broke in with, "Of course! I had often observed the fact, but thought nothing of it." This symptom, which all of his physicians also ignored, comes out in most of the later photographs and the portraits, especially in those of Lenbach, the realistic painter. The left eye is turned out and up. Consult the portraits herewith reproduced. Some American oculists call this defect "hyperexophoria." In the effort to drag the eyelid away from and above the pupil of this eye the forehead is arched and wrinkled in concentric curves—an appearance noticed in many such patients. In the pictures in early life this combination of heterophoria and strabismus is not shown—because it did not exist. It had been overcome by strain, if it existed, and the strain had produced its effect.[8] Some of the later photographs do not show the outward and upward turning of the eye, a fact that demonstrates the temporary ability to overcome it by intense effort of fixation or concentration of the attention. This turning of the left eye upward and outward is, as oculists know, a result of ametropia, and especially of astigmatism and anisometropia. It was a relief of eye-strain, an effect rather than a cause of it—a fact that the "graduated tenotomists," the cutters and snippers of eye-muscles, forget.

A bungling newspaper headline of a review was "The Eye of Genius"—as if geniuses had a peculiar sort of eye-defect. The geniuses are few, the slaves of civilization millions. Even Wagner and Carlyle and DeQuincey, as poor as they were, could stop near-range ocular work when they were compelled to do so, or limit it to "a little hour" a day. Sewing women, typewriters, clerks, many students, teachers, all poor handicraftsmen and women can not do so. They must work eight or ten hours every day, and all days, with the same ocular defects as the "geniuses." The tragedies to them are therefore greater than to the geniuses. There is no greater cruelty, no greater crime against humanity, than this of non-recognition and scorn of eye-strain.

This evidence presented by the portrait painter and the photographer of Wagner would not be needed by the expert oculist to prove the fact of the cause of his lifetime of awful misery. It adds the demonstration needed to convince general physicians and intelligent laymen. Many thousands of such non-medical persons who have been cured of appalling sufferings like those endured by Wagner would not need such a proof. The mere reading of the list of quotations I have gathered would make them shudder to think of their own past experience. Multitudes of others still await the finger of a divine science on their eyes. But that touch must first come to the eyes of the physicians, too many of them still blind by prejudice and tradition.

7. What Wagner thought of spectacles may be gathered from a sentence in a letter to Friederic Nietsche, written in 1874: "Overbeck delights me, because so far he has been able to do without glasses." Of course, his contempt was justifiable, and would be so to-day were he living in Germany.

7. Even in the later photographs the ocular defect is not always shown, chiefly probably because he was able by intense effort to overcome it and secure "binocular fixation." In a letter to Dr. Pusinelli Wagner says that the constraint and mechanical preparation for being photographed rendered it very difficult to procure a faithful likeness of his "so changeable expression." Whether "fixing" with both eyes or with but one would make a great difference in the expression. The vertical wrinkles between the eyes are also proof of eyestrain.

Implantation of Adipose Tissue After Evisceration of the Eye.—M. Uribe Troncoso of Medico, editor in chief of the *Anales de Oftalmologia*, publishes in No. 11, Vol. IV, his application of the method of autoprothesis after evisceration suggested in 1901 by Barraquer of Barcelona, Spain. The latter reported a single case thus treated, but has not published the remote results. After evisceration he introduced into the cavity left a piece of adipose tissue slightly smaller than the missing eyeball. Troncoso performed the same operation on a nine-months' babe whose purulent ophthalmia neonatorum had been neglected. The piece of adipose tissue was taken from the buttocks and had healed into place without diminishing materially in size when the child was last seen, nearly two months later. He much prefers this autoprothesis to the use of paraffin or any other foreign body. Less suturing is required to hold it in place than a glass prothesis.

Clinical Reports.

A CASE OF OSTEOMALACIA (?).

JAMES R. MONTGOMERY, M.D.
BUCKHORN, PA.

Mrs. A. N. was a large, well-developed woman with good family history. Both parents died of old age. There is no specific history nor any reason to suspect any. She has never borne any children. I have been her physician since 1882 and she had no serious illness in that time until 1888, when she suffered from a severe attack of sciatica which lasted about six months.

Ten years later, in 1898, she fell on an icy walk, fracturing the right femur and the left humerus. Both bones united in the usual time and with good results. At this time I noticed that she was becoming decidedly stooped, but attached little importance to it.

Nine months later, while walking across the room she either tripped, or her leg gave away, and a fracture resulted at the site of the former one. This was set in the same manner as the previous one, but for three months the bones did not unite. At this time, suspecting softening, I put her on powdered bone and in six weeks firm union had taken place, though with considerable shortening, but owing to the weakness, the pain

on motion, and above all, the apathetic mental condition of the patient, she remained bedridden.

Soon after this the family removed to Bloomsburg and I lost sight of her.

Three years later, in March, 1902, I was requested to see her. At this time I found much emaciation of the upper part of the body and of the arms and a great increase in the size of the abdomen, pelvis and especially of both thighs. The left thigh was somewhat shortened and very painful. There was apparently total absence of the shaft of the femur in this limb. The mental deterioration was very marked. I prescribed acetanilid for the relief of the pain.

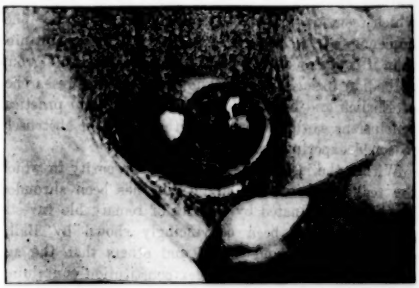
Several weeks ago Drs. W. M. Rebu and F. W. Redeker and I examined her. Her condition was pitiable. Her mental condition was one of extreme dementia. There was great emaciation of the upper half of the body. Her voice had that peculiar tone sometimes noticed in syphilis of the nose and throat. The bodies of the last three or four cervical, and nearly all the dorsal, vertebræ are apparently gone, seemingly, causing that part of the spinal column to arch back in a huge shapeless tumor. The abdomen is much enlarged and this, in connection with the emaciated upper half of the body, vividly recalls the pictures, so common a few years ago, of the poor famine victims of India. The pelvis is a shapeless mass and it is impossible to locate any of the usual landmarks. Both thighbones, as such, are absent and the thighs are drawn up and curved in a way that would be ludicrous were it not so pathetic. Her height, which in health was sixty-four inches, is now but forty-two, measuring from the left heel, while from the right one it is several inches less. The legs below the knees seem now to be undergoing the morbid process. The accompanying photograph, kindly taken by Dr. Redeker, will show her appearance.

The arms are partially paralyzed, probably from pressure on the spinal nerves. The bowels and kidneys are performing their functions in a normal manner. She suffers severely at times, but the pain is rendered bearable by the acetanilid. By my advice they have never given her opiates.

PAPILLOMA OF THE LIMBUS CONJUNCTIVÆ.

GEORGE H. HEILMULLER, A.B., M.D.
Ophthalmic Surgeon to Washington Asylum for the Blind.
WASHINGTON, D. C.

I was consulted by an optician about the case here illustrated and as I could not see the patient until three days later a collyrium containing boric acid and suprarenalin was ordered. The suprarenalin constricted the blood vessels of the wart, producing the intense white appearance. The larger vessels were not contracted to the same extent and hence appear more prominently on the photograph.



The patient had no warts on other parts of the body. It first appeared in October, 1902, and was then the size of a pin head.

The photograph being life size, the tumor needs no description, it being a simple cauliflower-like wart. The tumor is on the patient's right side, the white irregular spots on the left being the image of the photographer's screens.

It is interesting on account of the extreme rarity of its appearance in the limbus. Usually tumors of this region are malignant. It is the first case of the kind that I have seen in a service of one and one-half years as clinical assistant at the Royal London Ophthalmic Hospital, one and one-half years' study in the clinics of Germany and France, and five years' private practice. Papillomas are seen now and then in the region of the caruncle, from which they seem to grow.

The growth was removed by excision, the conjunctiva was not stitched, the bare surface being covered in 48 hours by proliferation of conjunctival epithelium. Microscopic examination showed a typical wart structure, i. e., vascular papillæ covered by epithelium and no tendency to infiltration of underlying parts by epithelial cells.

These warts must be thoroughly removed as they are prone to recur and also because they cause some disturbance of vision.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue . . . . . Chicago, Ill.

Cable Address . . . "Medic, Chicago"

Subscription price . . . . . Five dollars per annum in advance

SATURDAY, AUGUST 8, 1903.

THE RECENT ADVANCES IN OUR KNOWLEDGE OF AGGLUTINATION.

The agglutination or specific-serum test for typhoid fever has for some years held a deservedly high place as a practical aid to diagnosis, and it is now evident that the same test is becoming practically indispensable for the identification and differentiation of the numerous varieties of the typhoid bacillus, the dysentery bacillus, the members of the *B. enteritidis* group and allied forms. Every careful experimenter, however, has recognized the existence of manifold sources of error in the ordinary methods of application of this test, and will warmly welcome the recent advances in our knowledge which seem to lay bare the inner meaning of the phenomenon. It is, perhaps, more true of the agglutinins than it is of any other member of that remarkable group of bodies, brought to our knowledge by the researches of Ehrlich and his coadjutors, that immediate practical conclusions can be drawn from the somewhat abstrusely reasoned experiments.

Within the last twelve months the obscurity in which the real nature of the agglutinins has been shrouded has been illuminated by a series of remarkable investigations. It has been convincingly shown by Bail,[1] Joos,[2] Eisenberg and Volk,[3] and others that the agglutinins are bodies of complex constitution containing a combining (haptophore) and a functional (agglutinophore) group. When, for example, the serum of an animal that has been inoculated with a culture of the typhoid bacillus is heated to 65 C. or subjected to the action of weak acids, the functional group of the agglutinating substance is so altered that the heated or acidified serum is no longer able to produce clumping of the specific bacillus. The haptophore, or combining group of the agglutinins, however, in spite of this treatment, remains intact, as is shown by the observation that when the heated serum is added to a culture of the appropriate organism the bacilli, while not agglutinated, are so affected that they can no longer be clumped by the addition of unheated active serum. In other words, combination between the haptophore group of the heated agglutinins and the corresponding receptors in the bacilli has taken place, and when active serum is added to the bacilli, it finds the receptors already occupied, and is unable to manifest its agglutinating power. In a strictly homologous fashion, typhoid and cholera bacteria, when treated by heat or dilute acid, lose the power to be agglutinated, but remain still able to bind the agglutinin. The agglutinable moiety of the bacterial substance is destroyed by heat, but the combining portion persists. These researches of Eisenberg and Volk have been entirely confirmed by Wassermann.[4] We must, accordingly, assume the existence of two substances in agglutinable bacterial cells, namely, a stable, combining substance and a labile, functional substance, the integrity of the latter being essential to the production of visible agglutination. Corresponding to these two constituents of the agglutinable substance present in bacteria we must assume two similar groups in the agglutinating substance of the serum. Here again, one of these, the combining element, is stable while the functional is readily destroyed or altered by various agencies.

Wassermann[4] has sought to discover the relation that the agglutinins bear to the other substances present in immune sera, such as the precipitins and the amboceptors. The observation that the complete precipitation of an immune serum with a sterile bacterial filtrate destroys also the agglutinative power is taken to indicate that the agglutinin is one of the substances thrown down in the precipitate. That the agglutinin constitutes one of the elements of the precipitate produced by adding an excess of bacterial filtrate can, in the light of Wassermann's researches, hardly be doubted. On the other hand, this author concludes that the agglutinin and immune body (amboceptor), at least in the case of *Bacillus pyocyaneus*, are two completely independent substances. The agglutination test (Gruber-Widal reaction) and the immunity test (Pfeiffer's phenomenon) are, therefore, to be regarded as two separate and unconnected reactions, as, indeed, has been inferred on other grounds by a number of previous workers.

Wassermann's researches on the partial agglutinins led to the conclusion also already reached by some other observers, that biologically distinct varieties of bacteria may possess common receptors, so that differentiation on the basis of agglutinating properties is in many cases difficult, in some impossible. In differentiation tests investigators should adopt the rule that the extreme agglutinating value of the serum for the specific bacillus be used as a basis rather than any arbitrarily selected dilution standard. Thus a serum, the limit of whose agglutinating power is 1/20,000, can not be legitimately used for species differentiation in so low a dilution as a serum whose agglutinating power is only 1/500, since in similar dilutions the former would be much more liable to contain partial agglutinins for other species than the latter. It is further evident from the researches of Smith[5] and others that the reasons for the presence or absence of common receptors in biologically related species are by no means clearly understood.

Joos[6] has recently published investigations on the different agglutinins of typhoid serum, which demon-

1. Archiv f. Hyg., xlii, 1902, Heft. 4.
2. Zeitschr. f. Hyg., xxxvi, 1901, p. 422; xl, 1902, p. 203.
3. Zeitschr. f. Hyg., xl, 1902, p. 155.
4. Zeitschr. f. Hyg., xlii, 1903, p. 267.
5. Journal of Medical Research, ix, 1903, p. 270.
6. Centralbl. f. Bakt., xxxiii, 1903, p. 762.

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strate with particular vividness how serious are some of the difficulties to the successful study of these substances, and how many pitfalls beset the steps of the unwary. This author has shown in a series of carefully planned experiments that living typhoid bacilli contain two different agglutinable substances which may be distinguished from one another by their different resistance to heat; one (the α-agglutinogen) is quickly destroyed at 60 to 62 degrees; the other (β-agglutinogen) can resist the action of this temperature for at least several hours. The inference from even this brief statement is obvious. Much work that has been done by previous students of the agglutinins is without sufficient regard to uniformity in the use of heated or unheated cultures, and it is evident that if Joos' statements are confirmed a fruitful source of error is here uncovered.

At least one important practical conclusion to be put to immediate use can be drawn from the results of all these researches, whatever value one may attach to the more or less theoretical interpretations by which they are accompanied. This is the need for extraordinary precaution in the whole technic of the agglutination test, whether the test be employed for diagnosing disease or for differentiating allied species of pathogenic microbes. It must be recognized that the agglutination phenomenon is a remarkably complicated process, and that apparently justified conclusions may be wholly vitiated by inattention to seemingly trivial details, such as the age, character and condition of the culture used for immunization, the ages of the serum as possibly influencing the formation of agglutinoids, the nature of the fluid chosen for diluting the serum, the degree of serum dilution, the age of the culture on which the serum is tested, alkalinity of the nutrient medium on which the culture is grown, the difference in the agglutinability of various bacterial stocks and many other factors. It is inevitable, if, from the purely human standpoint, perhaps somewhat unfortunate, that the whole tendency of advancing science should be to show that the apparently simple is in reality endlessly complex.

THE POINT OF ATTACK IN PULMONARY TUBERCULOSIS.

If one critically considers the number of points in medical science that are positively established he may be surprised at finding how very few they really are. There are not many topics, however hackneyed they may seem, that do not offer plenty of opportunity for fruitful investigation, for there are always new methods that can be tried, and new positions from which to view the facts. This absence of finished study does not, however, reflect on medical science, as might seem at the first thought. Every other branch of science is in the same condition, more or less according to its age and nature. It is told of a scientist who once made the remark in the presence of a number of his fellows that there was no subject that was not still open for fruitful research. The statement was questioned, with the result that the speaker agreed to undertake research in any topic that might be selected by his challengers. After some consideration "water" was chosen as being a substance that had been pretty thoroughly investigated. A long period of labor was followed by a monumental publication on this subject, in which were produced many new and important observations that added greatly to chemical and physical knowledge.

It might seem that the subject of pulmonary tuberculosis should by this time have been worked out to completion, in view of our familiarity with the disease and its cause, the enormous material it offers for study, together with the ease of its experimental production. However, the manner of production of the initial lesion, among other things, is still a matter of discussion, dispute, and study. For a long time we have been content with believing that the process started in some bronchiole or air sac, into which a bacillus had been inhaled, and where it happened to find proper conditions for multiplication instead of meeting the more common fate of being swept out by the cilia, or devoured by a phagocyte. However, there were always those who contended that the bacillus reached the lung by some other route than the bronchi; that is, by either blood or lymph, but they were in the minority. So recently as 1899 the question seemed settled by the elaborate research of Birch-Hirschfeld. In an enormous autopsy material he found a small number of cases, thirty-two in all, that offered proper conditions for the study, namely, a single active focus of the disease. Twenty-eight of these foci were located in the mucosa of a middle-sized bronchus, most often the one going to the posterior part of the apex, where, of its entire extent, the lung has the least respiratory movement. There were but three of the series that showed what appeared to be a primary interstitial lesion that might suggest origin in the blood or lymph vessels. The conclusions drawn from this study were that the prevailing idea was correct; that the bacilli that caused the disease had been drawn into the bronchioles, where, in the part of the lung least capable of removing them by coughing, they lodged, multiplied, and produced a tuberculous lesion. With an abundant material and acknowledged ability, this research of Birch-Hirschfeld seemed conclusive, Not so to all, however. Aufrecht,[1] soon after, published his reasons for believing that pulmonary tubercles usually arise from vascular lodgment of the bacilli, and he has urged this view consistently since.[2] The bacteria enter the blood, he believes, through the tonsils, or cervical, mediastinal or mesenteric glands, particularly the tonsils. They lodge in small branches of the pulmonary artery, where they produce an infarcted area, which soon becomes cheesy, constituting a tubercle. A miliary tubercle, according to Aufrecht, is a thrombosed vessel with thickened walls. In support of Aufrecht's views, we may call attention to the fact that numerous recent studies have indicated that tubercle bacilli do quite readily enter

1. Berliner klin. Wochenschr., June 25 and July 2, 1900.
2. See article in the Journal of Tuberculosis, April, 1903.

the blood stream without evident local lesion, notably through the intestinal mucosa into the thoracic duct. However, to most physicians the bronchogenic invasion will still seem the more probable.

And now comes a Russian, Abrikossoff,[3] who, pursuing the method of Birch-Hirschfeld of collecting suitable primary lesions, studied them in serial sections, with the aid of the elastic tissue stain. This stain rendered it possible to recognize structural landmarks too far altered to be recognized by other methods, and disclosed the fact that the center of the tubercle was really in a bronchiole, although the involvement of the vessels described by Aufrecht was readily seen. He believes that the process begins in the bronchial wall, and that the involvement of the vessels is secondary, although he was able to demonstrate that it is possible to produce foci of tuberculosis in the lung by injecting bacilli into the ear veins of rabbits; and these foci were in structure quite similar to the foci of bronchopneumonia observed in his human cases. His work, then, on the whole, agrees with the idea that primary bronchial location of the lesion is the rule, although indicating that it is possible to have quite similar lesions produced by bacilli reaching the lungs through the blood stream.

In this connection Grober's[4] experiments are of interest. He found that if suspensions of india ink were injected into the trachea of dogs, within six hours the particles could be found free in the pleural cavity. This, of course, indicates the possibility that primary tuberculosis of the pleura can be produced in a similar way by inhaled bacilli. If the ink were injected into the tonsils the pigment entered the cervical glands, and from there passed to the pleura, particularly that over the apex, but also some reached the pericardium and diaphragm. Thus another suspected route of invasion is proven to be possible.

NEW INVESTIGATIONS CONCERNING THE FIXATION OF TETANUS TOXIN BY CEREBRAL TISSUE.

When cerebral tissue is mixed with tetanus toxin, there occurs some form of union between the two which has been spoken of as a neutralization of tetanotoxin, due to its combining with the lateral chains or receptors of the nerve cells. This phenomenon was studied especially by Wassermann and Takaki, and by them and others marshalled into line as one of the strongest supports of Ehrlich's side-chain theory of cytolysis and immunity. Some recent experiments by Besredka and others are of interest in connection with the study of toxins. Besredka[1] finds that washed tetanized cerebral tissue (large quantity of tetanus toxin is added to the cerebral tissue of guinea-pigs, and after from six hours to three days the tissue is washed until the wash-water is wholly harmless when injected) produces fatal tetanus in mice in doses of one or two drops. This experiment certainly shows that more tetanotoxin is fixed by the cerebral substance than is neutralized. Besredka further shows that tetanus antitoxin has the power to abstract from tetanized cerebral tissue all the toxin it has fixed, thus leaving the tissue free to attach to itself again just as much toxin as before.

Dmitrievsky[2] endeavored to determine the relative amounts of antitetanotoxin in brain tissue and blood of immunized animals. He reasoned that if the overproduction of receptors in the nerve cells constitutes the source of the antitoxin, then the brain of immunized animals, at least at certain periods of immunization, would be richer in antitoxin than normal brains and than the blood of immunized animals' brains. He found that the blood of animals thoroughly immunized always contains more antitoxin than brain tissue, while this tissue in animals only partially immunized does not differ in its antitetanic power from normal brain substance. Whatever increase in antitetanic power—and it was always found to be only slight—there is in the brains of thoroughly immunized animals, Dmitrievsky ascribes to an increased amount of antitoxic blood retained in the hyperemic cerebral capillaries. The conclusion that the French investigators urge especially is that cerebral substance contains some principle that fixes tetanus toxin, but this principle is not the same as the antitetanin of antitoxic serum, and, consequently, the phenomenon of fixation of tetanotoxin by brain tissue can not be urged in support of Ehrlich's theory. It is not intended to do much more than merely to give the trend of these interesting studies. It may be pointed out, however, that, while cerebral tissue in the test-tube of Besredka's experiments failed to neutralize the tetanotoxin, it must be very doubtful, indeed, whether one is allowed to assume that brain tissue acts exactly in the same way when in the living body. At all events, the somewhat disturbing conclusions of the keen French investigators will be sure to stimulate the defenders of Ehrlich's theory to renewed inquiry.

A RADIUM CALCULATION.

A correspondent of the English periodical, *Nature*, has been calculating the amount of radium that would be required in the sun's composition to maintain its outgo of energy in the form of light and heat. Taking the most reliable figures as to the radiation of radium and of the sun, he finds that three and six-tenths grams in each cubic meter of the sun's bulk would be all that is required, excluding the possible, and, indeed, probable, conditions of the solar surface that would make even a smaller amount effective. These figures are rather startling, and aside from their general upsetting of accepted theories of the sources of solar energy, are formidable from another point of view. It is, perhaps, a fortunate thing that this new element, or whatever it is, is so scarce and hard to get. An ounce, or even a gram of radium might be an awkward thing to handle, and the isolation of a larger quantity be a positive danger to the community. In quantity, it might realize

3. Cent. f. Allg. Pathol., 1903, xiv, 369.
4. Deut. Arch. f. Klin. Med., lxviii, 296.
1. Ann. de l'Institut Pasteur, 1903, xvii, 138-147.
2. Ibid., 148-160.

the destructive powers of the "heat ray" used by the Martians in H. G. Wells' fiction, "The War of the Worlds." At present, the material has been studied just enough to excite the imagination, and its capabilities in that way seem limitless.

CHLOROFORM AND ITS DANGER.

The report of the special chloroform committee of the British Medical Association, published as a supplement to the *British Medical Journal* of July 18, especially that portion by Drs. Sherrington and Sowton, has a particular interest in view of the fact that, in spite of its known dangers, chloroform still holds its own as a popular anesthetic in surgery. The conclusions are, practically, that chloroform is a paralysant to the heart muscle; that it is rapidly taken up by the tissue, and that its paralyzing action is dependent in degree on the solution's percentage in the heart. They figure that 300 cubic centimeters of a 2 per cent. admixture of air and chloroform vapor in the arteries of a heart of an adult man would practically annul cardiac action. The practical application of this fact, however, requires further data as to the quantity reaching the cardiac arteries, the tension of the vapor in the mixture inhaled, etc. While a percentage of 2 per cent., or lower, of chloroform in the vapor inhaled is estimated to be within the limits of safety with moderate quantities inhaled, and a certain immunity is produced in the prolonged administration, the danger elements are not all eliminated. There still remains the possibility of idiosyncrasy which Sherrington and Sowton think existed in their experiments on cats, and which may in the more complex human organism be a still more serious probability. It is the unexpected that happens in accidents from anesthesia, and in chloroform we know that we have a direct cardiac poison, the absolute manageability of which under all conditions is by no means thoroughly established by this investigation. We can not fully indorse the view of the *British Medical Journal* that with inhalers supplying definite percentages, the probability of perfect safety in the use of this powerful agent is assured in the near future.

RESEARCH AND TEACHING IN CONNECTION WITH STATE INSTITUTIONS.

It is significant of the trend of the time to note that in several states active agitation in favor of the establishment of state pathologic institutes is going on. In New York the step has been definitely taken, and the Pathologic Institute of the New York state hospitals, as now reorganized and directed, promises to fulfill the expectations of its founders. Michigan has quietly advanced to the stage in which a separate building for the institute has been provided, equipment and salary assured, and it now remains to secure a director of this, a clinical and pathologic laboratory connected with the state university and a part of the state hospital's system of Michigan. The subject of a central laboratory has been brought to the notice of the board of control of the Iowa state hospitals. In Ohio the project was revived at the last meeting of the Ohio State Medical Association. Resolutions were adopted favoring the plan proposed by Ohlmacher in his paper[1] before the general session, and a committee appointed to advance the movement. The Ohio plan of having the initiative taken by the State Medical Association seems especially good, since this should tend to keep the control of the central laboratory in the hands of the medical profession of the state. As it is now organized, the medical profession of Ohio is in a position to secure favorable attention from the officials representing the people of the state, and with active work on the part of the committee the prospects for favorable results are bright. The day has passed when the various medical institutions of the states shall have fulfilled their duty to society by attending to administrative details alone. The medical profession and the intelligent public demand that these great hospitals with their thousands of patients and millions for maintenance shall be more than immense public hotels. Their vast material should be turned to the use of science. A small portion of the money set apart for their maintenance should be used toward investigating the nature, cause, treatment and prevention of the diseases for the care of which they are established. In the East, especially in Massachusetts and New York, a scientific spirit animates the medical staff of the state hospitals, several well-conducted laboratories are in flourishing condition, and contributions of scientific value have been produced. The movement is coming westward, as indicated by the facts above outlined, and it only remains for our state medical associations to vigorously bend their energies toward the realization of a scheme vastly important in its scientific and humanitarian promises.

Medical News.

ILLINOIS.

Swindlers Arrested.—Chester Parker and W. Fletcher Hall, so-called "magnetic physicians," who swindled many people of Peoria out of sums varying from $25 to $100 and decamped to Omaha, have been arrested there and will be brought back to Peoria for trial.

Quarantine To Be Raised.—Carterville, Marion and Murphysboro, which have been maintaining a quarantine against Herron, Williamson County, where there have been several cases of smallpox and ten deaths, have been requested to remove the embargo, as the situation has so improved as to render quarantine unnecessary.

Reforms at Dunning.—Superintendent Podstata of the Cook County Institutions at Dunning, announces that he will open a training school for nurses this winter. He has had on trial an attendant charged with having used violence to a patient, has found him guilty and discharged him, and has in hand an investigation of a charge of cruelty against a female attendant.

State Society Incorporated.—Incorporation papers of the Illinois State Medical Society were filed at Springfield, July 23. The object of the society is to promote the science and art of medicine. The incorporators are Dr. David W. Graham, Chicago; Otho B. Will, Peoria; William O. Ensign, Rutland; Henry C. Mitchell, Carbondale; L. J. Harvey, Griggsville; J. F. Percy, Galesburg; Carl E. Black, Jacksonville, and Edgar P. Cook, Mendota.

Chicago.

Held up and Robbed.—Dr. Charles M. Oughton was recently held up in front of his residence and robbed of a pocketbook containing $60.

Personal.—Dr. and Mrs. G. E. Fosberg sailed on the *Oceanic* for Liverpool, July 29.

1. The laboratory movement in Ohio's state hospitals.

Absurd Charge.—A constable who had left an umbrella in the office of Dr. T. Bassett Keyes, arraigned Dr. Keyes before a justice of the peace on the charge of larceny. Although the defendant's attorney made the plea that umbrellas were common property, the physician was acquitted.

Low Mortality.—Notwithstanding—or because of—the unusual character of the weather during the month just ended, says the Chicago Department of Health, the July death rate, 14.92 per 1,000 per annum, is more than 16 per cent. lower than the average of the ten previous Julys, which was 17.84. The highest July rate of the decade 1893-1902 was 24.43 in 1894; the average rate of the first five years was 21.15, and of the second, 15.12. This shows a decrease of nearly 30 per cent. in the two periods, and is evidence of the increasing healthfulness of Chicago. Had the death rate of the first half of the last decade still obtained there would have been 3,092 deaths last month instead of the 2,390 which actually occurred.

MARYLAND.

Baltimore.

Deaths.—There were 220 deaths for the week ended July 25, a rate of 20.97 per 1,000 per annum, that for whites being 17.06 and for colored persons 42.49; 100 were of children under 5; 42 new cases of typhoid fever were reported.

Summerers.—Dr. William Osler is summering at St. Martin's, Guernsey, England.——Dr. William E. Moseley sailed for Liverpool, July 24.——Dr. Harry Friedenwald sailed for Bremen, July 21.——Dr. J. Williams Lord will spend the next two months near Salem, Mass.——Dr. G. Frank Jones is at White Sulphur Springs, Va.——Dr. J. W. Smith is making a tour of Colorado.——Dr. Andrew H. Whitridge is in London. ——Dr. James A. Bond of Westminster, Md., is in Paris.——Dr. John G. Jay sailed for Europe, August 1.——Dr. John N. Mackenzie is spending August at Narragansett Pier.——Dr. B. Merrill Hopkinson is at Prout's Neck, Maine.

The Bahama Expedition Returns.—The expedition of investigation sent to the Bahama Islands, June 1, by the Baltimore Geographical Society and Johns Hopkins University, returned July 30. Many valuable data were obtained. Dr. Penrose, in charge of the medical department, examined 1,100 sick persons. Owing to the poor living and small fees of physicians, the natives have but little medical treatment. Leprosy and other skin diseases were very prevalent, and were closely studied. On several occasions the pilots and provision vendors were found to have leprosy. The degenerates of Abaco, descendants of the Torys, who intermarried closely, were studied. No yellow fever was found, and only two cases of malaria. Many species of mosquito were found and brought back to be studied by Dr. Howard, government entomologist.

NEW YORK.

Personal.—Drs. Charles Cary and A. L. Benedict, Buffalo, have returned from Europe.

Hospital Enlarged.—The trustees of the Buffalo General Hospital have added eighteen private rooms and nine semi-private rooms to the hospital.

Crippled Children Have Outing.—The little patients of the New York State Hospital for Crippled Children were the guests of the "Robins' Nest" at Tarrytown, a branch of the New York Hospital for Ruptured and Crippled, and had a very enjoyable outing.

Saratoga Spring Water.—The United States Government has sent Prof. F. B. Weeks of the Geological Survey to Saratoga to examine and prepare a report on the mineral springs of that section of the state. This report, containing scientific and reliable data, is to form a part of the novel mineral springs exhibit to be included in the World's Fair at St. Louis.

New York City.

Personal.—Dr. R. Husted Bell has assumed editorial charge of the *Medical Mirror*, as successor to the late Dr. I. N. Love. ——Dr. Henry L. Shively has been appointed a visiting physician to St. Joseph's Hospital.

False Death Certificate.—Dr. Frank A Bigelow, the physician in charge of the New York branch of the Koch Lung Cure, was held by Magistrate Hogan for trial in the Court of Special Sessions on the charge of making a false death certificate.

City Hospital for Consumptives.—The commissioner of charities has applied to the Board of Estimate for an appropriation sufficient to permit the erection of a new out-of-town hospital for consumptives. It is recommended that accommodations be provided for 500 patients, and that cheap wooden buildings be erected for dormitory purposes. It is urged, however, that the hospital grounds should cover 250 to 400 acres. It is estimated that the land will cost from $100 to $250 per acre, and that the annual cost of maintenance will be about $182,500.

Suit Against Hospital.—The death from burns of a patient who was being prepared for operation in the General Memorial Hospital has already been noted in these columns. The woman's husband has now begun an action in the Supreme Court against the hospital to recover $100,000 damages, alleging that the death of his wife was due to the carelessness and inexperience of the nurse who, instead of making use of the electric light, placed a lighted candle in a tumbler on the bed, and thus caused the ignition of the alcohol and ether which she was using. It is said that this suit involves certain novel points.

Office Thief and Crank.—Brooklyn and the upper west side of Manhattan have been "worked" by a young man of 22, calling himself variously Frank Edwardson, Edwards and Henderson, and giving an address as 2008 or 2274 Eighth Avenue. He is five feet six inches in height, weighs 130 pounds, has a clean shaven face, hollow cheeks and bad teeth, and dresses in a dark gray suit and dark gray felt hat. He gives his occupation variously as electrician and piano tuner, and complains of sudden attacks of choking due to spasm of the esophagus. He comes in with such an attack, but on engaging him in conversation it is noticed that his difficulty gradually subsides, and he impresses one as a nervous crank. His visits in a number of instances have been immediately followed by robberies.

PENNSYLVANIA.

Typhoid Epidemic.—An epidemic of typhoid fever is reported at Lancaster; the infection has been traced to the pollution of a well by a cesspool.

Investigation of Milk.—Two deaths at Johnstown, traceable to the use of drugs to preserve milk, are said to have prompted State Dairy and Food Commissioner Warren to undertake an investigation of the milk in the market. One thousand samples were obtained throughout the state. Of these, 75 per cent. contained formaldehyd or other preservative fluid. Many suits against dealers are likely to be instituted. A crusade has also been begun against the manufacture and sale of deleterious flavoring and coloring extracts used in beverages. Some of the manufacturers have been arrested and held in bail. The attorney-general has notified Commissioner Warren that he has ample grounds for prosecuting managers of almshouses and penal and charitable institutions of the state who furnish oleomargarine to the people under their charge.

Philadelphia.

New Hospital.—A new hospital, to be known as the Union Mission Hospital, is to be built by the John B. Stetson Company, on Fourth Street, below Montgomery Avenue. The hospital is to be a three-story fireproof brick structure, 65 by 102 feet. A roof garden will surmount the building.

After Toy Pistol Dealers.—Acting on the advice of District Attorney Bell, in a communication sent by him to Director of Public Safety Smyth, the latter has detailed detectives to investigate the sale of toy pistols from which resulted the recent deaths from tetanus. The district attorney will co-operate in the investigation.

Disclaimer.—In regard to criticism of the conduct of the Municipal Hospital, Director Martin positively disclaims any intention to criticise Dr. William M. Welch, for twenty-five years physician in charge. Dr. Martin is quoted as saying: "The feeling of the department is that the best and most efficient administration of the Municipal Hospital could be accomplished by a resident physician, but there is no intention of dispensing with Dr. Welch's services, since in the medical work of the city, in both ability and experience, he is invaluable." Dr. Welch's management of the institution was recently strongly endorsed in resolutions passed by the Medico-legal Society.

Polyglot Talks to Mothers.—The department of health has arranged to give a series of plain talks to mothers on the care of babies. Representatives of church guilds, day nurseries, college settlements and other charitable organizations arrange for the time and place of meeting. The following physicians have volunteered to give these lectures: H. C. Carpenter, W. S. Cornell, Frederick Fraley, Jr., Henry Golden, W. G. B.

Harland, Wilmer Krusen, W. W. Naylor, Francis Patterson, Robert N. Willson, and S. Doskow, D.D.S. Some of the talks have already been given, and part of them are to be given in foreign languages.

RHODE ISLAND.

To Suppress Smallpox.—Woonsocket has appropriated $1,600 in addition to sums previously appropriated for the purpose of suppressing the smallpox epidemic in that city.

Smallpox at Valley Falls.—On July 17, nine cases of smallpox were reported to the health officer, some of the patients being operatives in mills at Valley Falls, Central Falls and Lonsdale.

Fiske Prize Awarded.—The Caleb Fiske Prize of $250 for the best essay on "Auto-intoxication as a Cause and Complication of Disease" was awarded to Dr. W. Lewis Chapman, Providence. The subject for the prize essay next year is "The Action of Light as a Therapeutic Agent."

Free Camp for Consumptives.—The free camp for consumptives, prepared at Foster, under the direction of Dr. William H. Peters, Providence, was ready to receive patients, July 9. Out of 28 applicants for the open-air treatment, 21 have been accepted as cases in which the disease can be arrested.

TEXAS.

In Hadra's Memory.—The Dallas County Medical Society held a special meeting July 13 to take suitable action on the death of Dr. Berthold E. Hadra.

Texas Sanitarium.—The Texas Sanitarium, recently incorporated, has purchased 40 acres of land and buildings near Leona, and will complete and equip the buildings as a sanitarium.

Personal.—Dr. J. Shelton Horsley, El Paso, has accepted the chair of principles of surgery at the Medical College of Virginia, Richmond. He has also been elected to one of the positions of attending surgeon to the Memorial Hospital. He expects to leave El Paso on July 6, and after a vacation will locate in Richmond by the middle of August. Dr. Horsley has turned over interests in St. Luke's Hospital to Dr. C. B. Hanson.——Dr. John O. McReynolds, Dallas, has had conferred on him the degree of LL.D. by the Kentucky University.

UTAH.

Smallpox.—In Salt Lake City, on July 19, there were 10 cases of smallpox, and at Huntsville, where there are more than 15 cases, the citizens claim that quarantine laws are absolutely ignored.

Physician Acquitted.—Dr. Edward S. Payne, Salt Lake City, on trial for murder in the second degree for the death of Miss Anna D. Hill, who it was alleged died in his office after a criminal operation, in December last, has been acquitted.

Site for Isolation Hospital.—An eighty-acre tract of land near Terrace Heights has been selected as the site for the new isolation hospital for Salt Lake City, and bids were asked for the construction of a building to accommodate 75 patients.

Personal.—Dr. Haymond J. Powers, Ogden, who recently took aconite, mistaking it for other medicine, and was very ill for a time, has recovered.——Dr. Andrew J. Hosmer, Salt Lake City, has been appointed surgeon of the Salt Lake division of the San Pedro, Los Angeles and Salt Lake Railroad.

WASHINGTON.

Hoquam Hospital.—Hoquam is to have a new hospital, to cost about $10,000, with 35 ward beds and 16 private rooms. The building is to be completed October 1.

New Hospital for Spokane.—Ground has been broken for the new St. Luke's Hospital, Spokane, to cost about $26,000, all but $8,000 of which has already been subscribed.

Personal.—Dr. Thomas B. Curran, Tacoma, has been appointed county physician, vice Dr. Fred C. Miller, deceased.——Dr. H. W. Allen has been appointed health officer of Spokane, succeeding Dr. De Witt C. Newman, resigned.

Physicians Fined.—The Supreme Court has sustained the lower court in the case of Drs. James G. Stewart and Oscar V. Lawson, Seattle, convicted of conspiracy to obtain possession of the examination questions used by the State Board of Medical Examiners at its session in January. A fine of $500 was imposed in each case, and this fine, the Supreme Court holds, must be paid.

State Board of Medical Examiners.—On July 9 the State Board of Medical Examiners elected Dr. Frantz H. Coe, Seattle, president; Dr. H. A. Wright, Wilbur, vice-president; Dr. Philip B. Swearingen, Tacoma, secretary, and Dr. J. M. P. Chalmers, Vancouver, treasurer.——Dr. Caspar W. Sharpless, Seattle, has been appointed a member of the board, vice Dr. William C. Cox, Everett, term expired.

WISCONSIN.

Damages Awarded.—In the suit of Peter Hay against Dr. John Baird, Superior, for alleged malpractice, the jury awarded the plaintiff damages of $4,624.50.

Insanity on the Increase.—The report of the State Board of Control for the fiscal year ended June 30 shows an increase of 197 cases of insanity in the state, or nearly four per cent.

State Board Changes.—The item regarding Dr. L. E. Spencer, Wausau, in THE JOURNAL of June 20, was incorrect in this particular, that he succeeded Dr. J. Henry McNeal, Fond du Lac, term expired, as member of the State Board of Health, and not Dr. George W. Harrison, Ashland, who is still a member of the board.

Medical Examiners.—At its meeting in Madison, July 16, the board elected Dr. John R. Currens, Two Rivers, president, and Dr. Filip A. Forsbeck, Milwaukee, secretary and treasurer. These officers, and Dr. John V. Stevens, Jefferson, were chosen to represent the board in regard to interstate reciprocity of license.——Drs. Adellon P. Andrus, Ashland, and Frank P. Klahr, Horicon, have been appointed members of the board, succeeding Drs. Harvey B. Dale, Oshkosh, and Charles E. Quigg, Tomah. Dr. Wilbur T. Sarles, Sparta, and Louis F. Bennett, Beloit, have also been appointed members of the board.

GENERAL.

Opium Investigation.—The Philippine commission has appointed a committee to co-operate in an investigation of the use of opium in Japan, China, Singapore and Burmah. Major and Surgeon E. C. Carter, commissioner of public health in the Philippines, Bishop Brent of the Episcopal Church, and Dr. Albert are the federal members of the committee.

CANADA.

Montreal May Build a Hospital For Consumptives.—The medical men of Montreal are presenting to the city council at its next regular meeting an important petition. This is backed by the provincial board of health, and will call on the city to vote a generous sum for the erection of a hospital in Montreal for the treatment of tuberculosis.

Annual Report of British Columbia Board of Health.—Dr. C. J. Fagan, secretary of the British Columbia Board of Health, has issued his annual report. He states that the scheme for the establishing of a sanitarium for tuberculosis has now so far developed as to be capable of being put into practical operation within a short space of time. A site has been selected near Kamloops.

Vaccination in Montreal.—Over three thousand children left the Montreal schools this year refusing to be vaccinated. Last year the number debarred totaled 4,917. Dr. Laberge states that there is a steady growth among the citizens in favor of vaccination. That vaccination is beneficial has been abundantly proven in Montreal by the fact that of the last three hundred cases in that city, but one had been properly vaccinated. It is proposed to so amend the vaccination law as to leave pupils no option in the matter.

Smallpox in Cape Breton.—The spread of smallpox in the town of Sydney Mines, C.B., continues unabated, despite the efforts of the health authorities to check it. There are at present thirty cases in the hospital, and some fifty cases under quarantine. The people are averse to carrying out the instructions of the health authorities, hence the failure in the attempts to check the spread of the disease. General vaccination has been ordered, and four or five medical officers are conducting these operations. The disease has been prevalent in the town since May, since which time there have been upward of 100 cases. The town is isolated from outside intercourse as far as possible.

A Handsome Bequest to McGill Medical Faculty.—By the will of the late Mr. James Cooper of Montreal, the medical faculty of McGill University receives $60,000. The benefaction takes the form of an endowment to establish and maintain a chair of internal medicine, on lines to be determined by the medical faculty themselves. The fund is to be known as the Cooper Endowment Fund, and is to be payable two years after the date of death. A sum of $25,000 payable at the same time as above, is also left to the hospital for crippled children now

being organized by Dr. A. McKenzie Forbes, to be known as the Children's Memorial Hospital to Our Late Queen Victoria. Drs. T. G. Roddick, M.P., and Charles F. Martin are two of the executors of the will, and the residue of the estate is to be disposed of as the executors see fit within the next twenty years among the following institutions: The Montreal General Hospital, the Brewery Mission, the Salvation Army, and the Y. M. C. A.

FOREIGN.

The Journal of the Royal Army Medical Corps.—The first number of this journal, the official organ of the British military medical service, has just appeared. The first number contains interesting papers on hospital arrangements on transports, reports of surgical cases, and an account of the medical relief expedition to Martinique and St. Vincent last year. These, with other matters of interest especially selected for the class of readers whose patronage is expected, make a very creditable number. The journal is being issued monthly under the editorial management of Major R. H. Firth. Its appearance and general make up is excellent.

Hospital Training Required of German Students.—The medical students of the University of Berlin protest against the new regulation which requires that all who have not finished their course and taken their state examination before Oct. 1, 1903, will have to pass through the practical hospital year. This regulation affects those students who, during their studies, have exhausted their financial resources. There are many who have acted as assistants in the different departments, but this will not be credited to them as an equivalent. The students of Halle and Heidelberg have also protested to the chancellor of the empire against the new regulation.

The plague in Sydney reappeared June 20, only one case being reported, and no more occurring up to June 29. It is interesting to note that 115 rats infected with the plague had been found among those examined since March 12. A bounty of a sixpence a rat is now paid at Sydney. The destruction of rats has been continued ever since the epidemic that ended June 12, 1902, but with poor success in certain quarters of the city, where private parties failed to avail themselves of the means of extermination. Other cases of plague occurred May 24 and 25 in Brisbane and Perth, one each. A suspected case was isolated, June 25, in Auckland, N. Z.

Quacks in Germany.—Inquiry recently instituted as to the increase of quacks in German towns, brought out some interesting facts, though the replies to the inquiries were not as general and complete as was desired. In the province of Breslau, there were reported 228 quacks and 98 cases of malpractice, with 17 deaths at their hands; of these, 44 occurred in the town of Breslau, with two deaths. Of the 228 quacks, 141—113 men and 28 women—throve in the town of Breslau, and 70 who were not resident there treated Breslau patients, and visited occasionally. In the Rhine province, the inquiry brought out the result that from the 2,351 resident physicians in 539 communities, there were received 86 reports from 71 localities, which gave account of 288 quacks in 198 towns. Of these 288 quacks, 132 were reported from the province of Dusseldorf.

Smallpox in Tasmania appeared at Launceston in June, and a dozen or more cases occurred in that month. Rigid quarantine was established, the running schedules of steamships were modified and business interfered with. Houses and streets were put under guard, the general hospital closed, all outgoing mail fumigated and vaccination was general. New South Wales declared Tasmania an infected island, and took measures to keep smallpox out. The *Sydney Herald* remarks that there is perhaps no disease of which their people stand more in dread than smallpox. Australia has been free from it for many years. Partly because of supposed security by water isolation and partly because of trust in sanitary officers at the ports of entrance, vaccination has not been very general, and smallpox, it is thought, would deal severely with the people if an epidemic were once started.

Successful Mosquito Campaign at Suez.—According to a letter received by Major Ronald Ross from the secretary-general of the Canal Company of Suez at Paris, it appears that the measures taken by the local health authorities at Ismailia have almost completely eradicated the mosquito pest in that place. A permanent department has been created for oiling cisterns and pits, suppressing marshes and pools of water, and he thinks the number of cases of fever is very sensibly diminished in comparison with corresponding periods of former years. While the anopheles has not been completely exterminated, the recently-captured insects do not appear to be contaminated, while the culex mosquitoes, including, as Dr. Ross seems to think, the stegomyia, have almost disappeared. There is every reason to hope that the efforts will end in the complete extinction of malaria in the town of Ismailia.

Sanitary Problems in the Transvaal.—It is said that the South African medical authorities, especially in the Transvaal, are decidedly sluggish in sanitary matters, and the prospects of new outbreaks of plague are not just what might be desired. The local authorities seem to fail to appreciate the needs of sanitation, and in one case that is mentioned in the correspondence of the *British Medical Journal* they are directly interested in slum property and correspondingly opposed to measures that would tend to its sanitary amendment. The character of the obstinate persistency of the plague in Port Elizabeth has been alleged by the colonial secretary to be directly due to the opposition of the local authorities to the recommendations of the colonial health office.——A new rat-infested center has lately been discovered in Cape Colony, and it is possible that there may be a serious epidemic to follow. From the character of the population in the district the outlook in case such occurs is not hopeful.

Correspondence.

Reciprocity.

BURLINGTON, IOWA, Aug. 1, 1903.

To the Editor:—About a year ago you did me the honor of publishing my views about "the one simple and practical way of getting reciprocity in the practice of medicine," namely: amendment to that effect in the medical laws of all the states. I see in the current issue of THE JOURNAL that Vermont and Oregon have just such amendments, and while I am not vain enough to suppose that my views above referred to were in any way responsible for such action, I am none the less pleased to see that other people are as little visionary about this matter as I am.

H. B. YOUNG.

Surgical Treatment of Nephritis.

SAN FRANCISCO, July 24, 1903.

To the Editor:—I notice in THE JOURNAL, July 4, an article by Dr. A. H. Ferguson on the above subject, in which he refers to my experimental work on decapsulation of the kidney (*Annals of Surgery*, April, 1903). I wish to call attention to two points in which he is in error in his criticism of my paper. He says:

> It must be observed that in these experiments the kidneys of the dogs were normal and did not require additional blood channels for physiologic purposes, and also the organs were returned within the fatty capsule, which is but sparsely supplied with blood vessels.

It is true that the kidneys were normal, but it is also true that in two experiments, Nos. 4 and 6, an additional supply of blood was demanded; in the first instance by the renal artery of one kidney after decapsulation of the other; in the second instance by removing one kidney and leaving the other undisturbed. In meeting the demand for increase of function made on both the normal kidney and the decapsulated kidney, the perirenal circulation played no part. It was fulfilled by the enlargement of the renal artery and vein in both instances. In the latter part of the sentence, quoted from the article of Dr. Ferguson, he objects to my not having removed the fatty capsule, "which is but sparsely supplied with blood vessels." In reply to this objection to the validity of these experiments I would state that, in the dog, the peritoneum is closely adherent to the greater part of the surface of the true capsule, that there is no fatty capsule, and that, therefore, it can not be removed.

HAROLD A. JOHNSON.

Vaselin as a Menstruum.

OAKLAND, CAL., July 29, 1903.

To the Editor:—In the discussion on the paper "Treatment of Scarlet Fever, Its Complications and Sequelæ," by Dr. H. M. McClanahan, July 4, Dr. G. A. Hermann refers to the method of

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preparing a 10 per cent. ointment of carbolic acid in vaselin, while the Doctor does not state that he uses this strength in the ointment. One would infer that he does, or why does he mention it at all?

I wish to emphasize the absolute pharmaceutic incompatibility of a 10 per cent. ointment of vaselin, a 5 per cent. or even a 3 per cent. ointment of this hydrocarbon, which is altogether devoid of oxygen; 2 per cent. carbolic acid is all it will take up; 3 per cent. can be made by mixing equal parts of carbolic acid and camphor and then adding the vaselin. Even a 2 per cent. must be most thoroughly macerated, and any fraction over this amount will cause the crystals to precipitate.

The tendency of carbolic acid crystals in any menstruum is always to coalesce, and this is the cause of the frequent carbolic acid burns we so often witness—not the 2 per cent., but the precipitated crystals in excess of this amount.

Highly oxidized oils, as lard or lanolin, will take up 25 per-cent. of carbolic acid or more; so will olive oil or cotton seed oil take up a considerable amount, but never petrolatum. The oxidized oils or fats are readily absorbed into the system. The non-oxidized or hydrocarbons never. Therefore govern your strength accordingly. I do not write this as a correction, but want to emphasize what the Doctor suggests and give a reason for it. Carbolated vaselin is a good external application in scarlatina, as it will, in a sense, prevent the absorption of the acid, but lard, lanolin and vaselin should never be considered under the same heading as a base for active poisons.

Again, the profession almost universally prescribe vaselin a proprietary article, the exclusive monopoly of one firm. If we would be more just to American manufacturing chemists, if we would be more technical in our scientific language, and more considerate of the price of prescriptions to our patients we would call it petrolatum.

M. Lewis Emerson, M.D.

Marriages.

W. T. McCarty, M.D., Bison, Okla., to Miss B. L. Folsom of Chicago.

Lawrence Newton Wheeler, M.D., Monrovia, Cal., to Miss Helen Grace French of Berkeley, Cal.

William B. Mantle, M.D., Albion, Iowa, to Miss Hattie Leah Sawyer of Mount Vernon, Iowa, July 15.

Arthur Tenney Holbrook, M.D., Milwaukee, Wis., to Miss Bertha Matson Andrews of Lombard, Ill., July 29.

G. E. Leavitt, M.D., Mason Valley, Nev., to Miss Mary Cecilia Johns of Georgetown, Cal., at Smith, Nev., July 1.

Deaths.

Louis D. Kastenbine, M.D. Bellevue Hospital Medical College, New York, whose reputation as a chemist was widespread, died from Bright's disease at his home in Louisville, Ky., July 29. He was born in Louisville, Jan. 1, 1839, and was educated in the public schools, graduating in 1858. While attending the high school he took a course in chemistry in the medical department of the University of Louisville, under Dr. James Lawrence Smith. He began the study of medicine at the University of Louisville in 1860, with Dr. Erasmus D. Force and A. B. Cook as his preceptors. When the Civil War broke out he attached himself to the Federal Army as an acting medical cadet, being assigned to the duty in Louisville at Military Hospital No. 4. After his graduation Dr. Kastenbine remained in New York some time, returning to Louisville and associated himself with Dr. E. D. Force. He was selected as the first demonstrator of anatomy of the Kentucky School of Medicine in 1865. Later he was made associate professor of chemistry in the University of Louisville. In 1878 he took the chair of chemistry and toxicology in the Louisville Medical College. A few years ago he resigned and accepted the chair of chemistry in the Louisville College of Pharmacy, in connection with which he became renowned as an analytical chemist. He was special examiner of drugs of the port of Louisville for the United States government.

Thomas Moore Rochester, M.D. University of Buffalo, 1878, of Brooklyn, for three years president of the staff of and later consulting surgeon and gynecologist for the Brooklyn Central Dispensary, attending surgeon to St. John's Hospital, special lecturer in physiology at the Long Island College Hospital, vice-president and for two years president of the King's County Medical Association, charter member of the New York State Medical Association, died from consumption, July 12, at the home of his mother in Rochester, N. Y., after an illness of three years, aged 48.

Edwin J. Miller, M.D. Jefferson Medical College, Philadelphia, 1896, of Intercourse, Pa., was thrown from his carriage in a runaway accident near Mount Airy, July 24, and sustained a fracture of the skull, from which he died two hours later, aged 35. He was a member of the Lancaster City and County Medical Society, the Pennsylvania State Medical Association and the American Medical Association.

John Phillips, M.D. Rush Medical College, Chicago, 1853, a member of the American Medical Association; for more than 50 years a resident of Stevens Point, Wis., who served both in the senate and assembly of his state, died at his home in Stevens Point, July 28, from heart disease following influenza, after an illness of several months, aged 79.

George W. Nash, M.D. Central College of Physicians and Surgeons, Indianapolis, 1888, a coroner of Marion County, Ind., from 1898 to 1900, died at his home in Indianapolis, July 26, from paralysis, aged 68.

Lawrence Stewart Edwards, M.D. Bellevue Hospital Medical College, New York, 1876, who served for two terms as coroner of Suffolk County, N. Y., died suddenly at his home in Patchogue, Long Island, July 25, from apoplexy, aged 48.

Clarence B. Le Van, M.D. Niagara University, Buffalo, 1888, died, July 26, at his residence in Buffalo, aged 39. He was a member of the Buffalo Academy of Medicine, Erie County Medical Society, and the Esculapian Club.

A. E. Rodgers, M.D. Medical College of Ohio, Cincinnati, steward at the Bonner Springs (Kan.) Sanitarium, was burned to death, July 16, while endeavoring to save the life of an aged and infirm patient, aged 33.

Charles A. Ring, M.D. Medical School of Maine, Bowdoin College, Brunswick, 1872, professor of obstetrics in the Medical School of Maine, died at his home in Portland, July 8, after a long illness, aged 58.

Thomas C. Walton, M.D. University of Pennsylvania, Philadelphia, 1878, died at his home in Stroudsburg, Pa., July 10, from dropsy, after an illness of fifteen weeks, aged 49.

James Morgan Woodall, M.D. Vanderbilt University, Nashville, Tenn., 1889, died at his home in Estill Springs, Tenn., July 18, after an illness of two days, aged 36.

John Evans Walker, M.D. New York University, 1886, died at his home in Columbus, Ga., July 23, from cerebral hemorrhage, after an illness of only a few hours.

Edmund Brink, M.D. Berkshire Medical College, Pittsfield, Mass., 1856, died at his home in Saugerties, N. Y., July 21, after a prolonged period of ill health.

Arthur E. Graham, M.D. Vanderbilt University, Nashville, Tenn., 1885, died at his home in Handley, Texas, July 23, after a long-continued illness, aged 46.

Horace B. Van Norman, M.D. Homeopathic Hospital College, Cleveland, Ohio, 1864, died at his home in Cleveland, July 9, after a short illness, aged 69.

James W. Blount, M.D. University of Pennsylvania, Philadelphia, 1845, died at his home in Kenansville, N. C., July 15, from heart disease, aged 80.

John M. Wilson, M.D. Medical College of Ohio, Cincinnati, 1851, died at his home in Williamstown, Ky., July 20, after a lingering illness, aged 71.

Abraham O. Scott, M.D. University of Pennsylvania, Philadelphia, 1853, died at his home in Fairfield, Pa., July 7, from senile debility, aged 78.

Pierre Foxstall Choppin, M.D. Tulane University, New Orleans, 1884, of St. Patrick's, La., died at Covington, La., from la grippe, July 15.

I. C. Wait, M.D. Rush Medical College, Chicago, 1858, died suddenly from heart disease at his home in Juliaetta, Idaho, July 15, aged 70.

Charles A. Morin, M.D. Laval University, Quebec, 1890, died suddenly at his home in Thedford Mines, Que., July 24, aged 37.

Rachel H. Allyn, M.D. New England Female Medical College, Boston, formerly of Lowell, Mass., died at East Charleston, Vt., July 22, aged 93.

Boswell Ward, M.D. Rush Medical College, Chicago, 1860, of Indianapolis, died at Winona Lake, July 9, after a prolonged illness, aged 73.

Sardis B. Taylor, M.D. Starling Medical College, Columbus, Ohio, 1875, died suddenly at his home in Fremont, Ohio, July 15, aged 60.

Frederick William Payne, M.D. Harvard Medical School, Boston, 1866, died recently at his home near Boston, after a long illness.

Joseph J. Cox, M.D. Jefferson Medical College, Philadelphia, mayor of High Point, N. C., died at his home in that place July 19.

Walton H. Yager, M.D. University of Louisville, 1891, died at his home near Worthville, Ky., July 13, after a short illness.

A. V. Roberts, M.D. University of Pennsylvania, Philadelphia, 1848, died at his home in Mansfield, La., July 8, aged 78.

E. Barnes, M.D. University of Louisville, 1875, died at his home in Tulia, Texas, July 16, after a brief illness.

H. N. Sherrill, M.D., of Union City, Tenn., died at his home in that place from heart disease, July 18.

Book Notices.

THE AUTOBIOGRAPHY OF A THIEF. Recorded by Hutchins Hapgood. Cloth. Pp. 349. Price, $1.25 net. New York: Fox, Duffield & Co. 1903.

This work purports to be a true statement of a reformed criminal, evidently edited by a more accomplished literary man, probably a newspaper man. It is an entertaining work in its way, giving certain views of low life from the standpoint of the criminal, and it does not create a very exalted impression of the police arrangements or the politics of the City of New York and other places. In fact, it bears out to a very large extent the allegations in Josiah Flint's work on the subject of the grafter in politics. The author, or rather the individual whose autobiography is here given, claims to be reformed, and his editor seems to have faith in his reformation. It is evidently not based on a moral conviction of sin, but rather on a utilitarian realization of the unprofitableness of crime as a means of support. The individual evidently has had considerable experience since he has had three state prison sentences and wound up in an asylum for the criminal insane, to which last place he gives a decidedly bad name. This is a little ungrateful since it seems to have been the principal means of his reform in breaking off the opium habit, etc. It is highly probable that his mental condition was such as thoroughly justified detention in such an institution, and he brings away the impressions based on his disordered mentality at the time. On the whole the work is a contribution to the sociologic literature of the day which has a certain tendency toward this kind of realism. We do not see any very great moral lesson to be derived from it, yet it is not directly bad in its tendencies, like the biographies of the James brothers and of other noted criminals that have so large and injurious a circulation. It is well to know something about the defects of the social organization and about the parasites that live on it. The subject of the autobiography evidently has a keen sense of humor and has done considerable reading in his prison detentions with the facilities there afforded. He does not, however, give us a high idea of discipline in our penal institutions. The book is suggestive of many reforms, and it may serve a useful purpose in this way.

HANDBOOK OF CLIMATOLOGY. By Dr. Julius Hann, Professor of Cosmical Physics in the University of Vienna. Part I—General Climatology. Translated, with the Author's Permission, from the Second Revised and Enlarged German Edition, with Additional References and Notes, by Robert DeCourcy Ward, Assistant Professor of Climatology in Harvard University. Cloth. Pp. 437. Price, $3.00 net. New York: The Macmillan Company, 1903.

This work, which is the first or general volume of a still larger one in the original German, is a valuable addition to our literature, not exactly medical, but scientific. Climatology, however, has many important medical bearings, and its value to the medical man, therefore, ought not to be underrated. The editor has added very largely to the references with the author's consent and has brought the work generally up to date. In fact, while the original work, as we take it, must have been much like the usual German works, deficient in matters more particularly connected with this country, the present volume is very complete in its American references and facts. It is, in fact, much better than the original, and the editor deserves the highest credit for this, though, as he modestly says, he has been careful to obtain Professor Hann's consent to every change that has been made. The work is not only full of information, but the information is in readable form. The remarks on mountain climate are full and complete, and only require a little common sense adaptation to have their value fully recognized from a medical point of view. The work contains a series of tables for the reduction of the metric and other scales to the ones originally used in this country as the metric system is used throughout in the text. The work should be a part of every physician's library.

HYGIENE AND PUBLIC HEALTH. By Louis Parkes, M.D., D.P.H., Lond. Univ., Fellow of the Sanitary Institute, and Henry Kenwood, M.B., D.P.H., F.C.S., Fellow of the Sanitary Institute. With Illustrations. Cloth. Pp. 765. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

This is the second edition of a compendium of hygiene, of which the first was based on an earlier work which ran through some eight or ten editions. The fact that a second edition has been required within a year shows that the book is appreciated. It has been well brought up to date and gives in condensed form the principal points which the student and general practitioner may require.

Miscellany.

Collodium in Treatment of Carbuncle.—Dr. Hauffe of Eilenburg calls attention to the far more rapid healing of a carbuncle when the immediate environment is painted with collodium. The hairs must be carefully shaved off and the center of the lesion treated with sublimate or otherwise as needed. The layer of collodium protects the sound tissues and exerts a gentle pressure, both of which favor rapid repair.—*Allg. Med. Ct.-Ztg.*, lxxii, p. 317.

The fifty-fourth annual session has passed into history. Yes, and with a success and eclat far beyond the most optimistic views of its most sanguine adherents and admirers. From the golden slopes trending toward the Pacific, from Maine, all along the Canada borders, and from the shores of the great lakes, from the extreme Northwest and Southwest, from the great metropoli of the east, Boston, New York and Philadelphia, with swarms from the central and southern states, did come the mighty leaders of the profession with many humbler followers of the healing art, who hope with a commendable pride to be leaders some day, all imbued with one dominant idea—to help, aid and assist their suffering fellow man by adding to, or attaining new ideas, new views, new methods for the relief of suffering humanity. On Thursday morning, between the hours of 10 and 11, in reply to an inquiry, the very efficient and courteous Chairman of the Committee on Registration, Dr. Rudolph Matas, replied, "We have just summed up and find that exactly 2,000 have registered—and here is another," he interpolated, as a registration card, with its accompaniment of $5, was handed over our shoulder. To which we heard an enthusiast near by exclaim, "Johnny on the Spot." That the registration went beyond the 2,000 mark, there were other late comers, and those who had been too busy or negligent to register up to this time, as is always the case, is most gratifying indeed.

This session being held so close to the warm season, on the very edge of the country, in a city, it is true, of over 300,000, yet bounded on one side for many miles by a sparsely inhabited section of our country, as contrasted with other cities in which the Association had met, and on the other by the Gulf—we can but consider the attendance most remarkable, and as a strong

and striking evidence that the method of organization is now on the right road.—*Southern Practitioner.*

State Boards of Registration.

Ohio Report.—Dr. Frank Winders, secretary of the Ohio State Board of Medical Registration and Examination, reports the examination held at Columbus, June 23 to 25, 1903, as follows: Number of subjects examined in, 9; total questions, 90; percentage required to pass, 75; written examination; total number examined, 91; number passed, 83; number failed, 8.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
170	R.	Ohio Medical University, Columbus.	1903	92 4-9
171	R.	Ohio Medical University, Columbus.	1903	88 2-9
173	R.	Ohio Medical University, Columbus.	1903	88
174	R.	Ohio Medical University, Columbus.	1903	89 6-9
175	R.	Ohio Medical University, Columbus.	1903	77 8-9
211	R.	Ohio Medical University, Columbus.	1903	92 8-9
216	R.	Cleveland Univ. of Med. and Surgery	1897	75
192	H.	Cleveland Homeopathic Med. College	1903	80 4-9
193	H.	Cleveland Homeopathic Med. College	1903	76 3-9
221	H.	Cleveland Homeopathic Med. College	1903	84 2-9
238	H.	Cleveland Homeopathic Med. College	1903	81 2-9
239	H.	Cleveland Homeopathic Med. College	1903	90 3-9
180	R.	Cleveland Coll. of Phys. and Surgs.	....	91 4-9
236	R.	Cleveland Coll. of Phys. and Surgs.	....	80 2-9
178	R.	Northwestern University Women's Medical College, Chicago.	1895	83 3-9
184	R.	Northwestern University, Chicago.	1903	95 1-9
179	R.	Jefferson Med. College, Philadelphia	1900	84 4-9
188	R.	Jefferson Med. College, Philadelphia	1903	94 2-9
194	R.	Jefferson Med. College, Philadelphia	1903	95 6-9
195	R.	Jefferson Med. College, Philadelphia	1903	95 8-9
227	R.	Jefferson Med. College, Philadelphia	1903	87
180	R.	University and Bellevue Hospital Medical College, New York City..	1903	93 3-9
186	R.	Medical College of Ohio, Cincinnati.	1897	92
190	R.	Medical College of Ohio, Cincinnati.	1903	96 4-9
191	R.	Medical College of Ohio, Cincinnati.	1903	82 6-9
209	R.	Medical College of Ohio, Cincinnati.	1903	89 6-9
210	R.	Medical College of Ohio, Cincinnati.	1903	91 1-9
212	R.	Medical College of Ohio, Cincinnati.	1903	91 6-9
246	R.	Medical College of Ohio, Cincinnati.	1903	94 5-9
182	R.	Illinois Medical College, Chicago...	1902	84 8-9
183	R.	Columbian University Med. School, Washington, D. C.	....	91
185	R.	Georgetown Univ., Washington, D. C.	1894	94 1-9
187	R.	Johns Hopkins Med. Schl., Baltimore	1903	94 1-9
196	E.	Eclectic Med. Institute, Cincinnati.	1903	89 2-9
197	R.	Starling Medical College, Columbus.	1903	84 3-9
199	R.	Starling Medical College, Columbus.	1903	94 3-9
213	R.	Starling Medical College, Columbus.	1903	84 3-9
214	R.	Starling Medical College, Columbus.	1903	89 5-9
215	R.	Starling Medical College, Columbus.	1903	89 6-9
219	R.	Starling Medical College, Columbus.	1903	86 8-9
237	R.	Starling Medical College, Columbus.	1903	85 2-9
198	R.	Rush Medical College, Chicago.	1901	92 3-9
228	R.	Rush Medical College, Chicago.....	1903	94 2-9
229	R.	Rush Medical College, Chicago.....	1903	92 4-9
241	R.	Rush Medical College, Chicago.....	1901	85 3-9
200	R.	College of Phys. and Surgs., Chicago	1903	93 1-9
201	R.	College of Phys. and Surgs., Chicago	1903	87 6-9
203	R.	University of Michigan, Ann Arbor.	1903	93 5-9
204	R.	University of Michigan, Ann Arbor.	1903	92 3-9
205	R.	University of Michigan, Ann Arbor.	1903	92 5-9
240	R.	University of Michigan, Ann Arbor.	1901	96 1-9
206	H.	Univ. of Michigan, Hom. Med. Dept.	1903	92 8-9
207	R.	Univ. of Pennsylvania, Philadelphia	1903	91 3-9
244	R.	Univ. of Pennsylvania, Philadelphia	1899	98 3-9
267	R.	Univ. of Pennsylvania, Philadelphia	1903	91 5-9
224	R.	Miami Medical College, Cincinnati..	1903	96
247	R.	Miami Medical College, Cincinnati..	1903	91 1-9
266	R.	Miami Medical College, Cincinnati..	1903	93 7-9
218	H.	Chicago Homeopathic Med. College	1903	88 4-9
220	R.	West. Penn. Med. College, Pittsburg	1903	91 7-9
222	R.	Detroit College of Medicine.....	1903	82 4-9
223	R.	Detroit College of Medicine.....	1903	81
225	R.	Detroit College of Medicine.....	1903	83 5-9
226	R.	Michigan College of Medicine and Surgery, Detroit.	1903	89
230	R.	Baltimore Medical College.....	1903	82 6-9
233	R.	Baltimore Medical College.....	1902	97
243	R.	Baltimore Medical College.....	1903	93 5-9
231	R.	Western Reserve Univ., Cleveland..	1903	91
232	R.	Western Reserve Univ., Cleveland..	1903	91 7-9
234	R.	Western Reserve Univ., Cleveland..	1903	94 5-9
235	R.	Western Reserve Univ., Cleveland..	1903	85 7-9
242	R.	Medico-Chir. College, Philadelphia.	1903	96 4-9
245	R.	Women's Medical College of Pennsylvania, Philadelphia	1903	80 8-9
248	H.	Hahnemann Med. Coll., Philadelphia	1903	89
251	H.	Hahnemann Med. Coll., Philadelphia	1903	87
250	R.	University of Maryland, Baltimore.	1903	94 6-9
255	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	84
256	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	87 1-2
257	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	90 3-4
259	O.	Amer. Schl. of Osteo., Kirksville, Mo.	1903	89 3-4
258	O.	Still Coll. of Osteo., Des Moines, Ia.	1903	90
260	O.	American College of Osteopathy, Medicine and Surgery, Chicago..	1902	82
261	O.	Southern School of Osteopathy, Franklin, Ky.	1903	91 3-4

FAILED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per Cent.
172	R.	Columbus Med. College, Columbus, O.	1878	65 5-9
176	H.	Cleveland Univ. of Med. and Surgery	1894	63 1-9
177	H.	Homeo. Hosp. Med. Coll., Cleveland	1883	43
181	R.	Medical College of Ohio, Cincinnati	1879	68 *
202	R.	University of Naples, Naples, Italy.	1900	*
208	R.	Miami Medical College, Cincinnati..	1870	61 7-9
217	H.	Homeo. Med. Coll., Kansas City, Mo.	1889	†.
252	R.	Kentucky School of Med., Louisville	1877	*

* Withdrew. † Dismissed from class.

Association News.

New Members.

New members for the month of July, 1903:

ALABAMA.

Williams, M. J., White Plains.

ARKANSAS.

Baker, Elwood, Dermott.
Grady, N. H., Monette.
Smith, Morgan, El Dorado.
Stephenson, C. C., Little Rock.

CALIFORNIA.

Hibbard, W. Edward, Pasadena.
Harris, Henry, San Francisco.
Voorsanger, Wm. C., San Francisco.
Clark, W. R. P., San Francisco.
Brady, G. T., San Francisco.

COLORADO.

Dyer, Harry Cheney, Segunda.
Beshoar, Ben. B., Trinidad.

CONNECTICUT.

Hazen, Robt., Thomaston.

FLORIDA.

MacDiarmid, John, DeLand.
Ryals, Chas. Howell, Delwood.
McSwain, Daniel L., Arcadia.

GEORGIA.

Middlebrooks, James D., Powder Springs.
Barnett, Jas. Miller, Pretoria.

ILLINOIS.

Greenbaum, Edw. C., Chicago.
Lespinasse, Victor D., Chicago.
Dunn, Elizabeth Hopkins, Chicago.
Albright, J. L., Chicago.
Sage, Annie White, Chicago.
Brown, Josiah Scott, Chicago.
Hurlburt, S. R., Chicago.
Sonnenschein, Robert, Chicago.
Krout, Jacob B., Chicago.
Warner, Augustus S., Chicago.
Macisy, Otis Hardy, Chicago.
Baumann, Fred, Chicago.
Reichmann, Max, Chicago.
Quick, John Joseph, Chicago.
Kohn, Alfred D., Chicago.
Wolfe, Jos. G., Chicago.
Stillians, A. W., Chicago.
Nagel, John S., Chicago.
Bemis, Jos. G., Chicago.
Wylie, J. S. Matheson, Chicago.
Hunter, Mary P., Chicago.
Nelson, Engelbrecht, Chicago.
Doepp, William L., Chicago.
Bachelle, C. V., Chicago.
Abele, Ludwig H., Chicago.
Parks, Albert L., Leland.
Wernham, Jas. Ingersoll, Marengo.
Parker, Charles F., Sterling.
Mershon, G. E., Mt. Carroll.
Barbour, E. E., Magnolia.
Mitchell, James M., Pontiac.
Liesen, Anna M., Quincy.
Landauer, Seward L., Danville.
Rainwater, J. H., New Canton.
Carriel, H. B., Jacksonville.

INDIANA.

Glock, C. Marion, Coesse.
Yockey, D. H., Blountsville.
Fisher, Erastus Scott, Markle.
Schillinger, D. R., Richmond.
Sisson, E. R., Maxwell.
Ewing, T. B. G., Richmond.
Bartholomew, Alfred C., Logansport.

KANSAS.

McKay, W. T., Arkansas City.
Coffey, Hugh B., Pittsburg.
Powell, Lewis M., Topeka.
McCurdy, William C., Larned.
Klaecker, David Edgar, Caldwell.

KENTUCKY.

Taylor, Septimus Theodore, Bevier.
Smith, C. M., Dixon.

LOUISIANA.

Barnett, James Z., Bon Ami.
Simmons, Richard Oliver, Alexandria.
Clark, C. D., Mer Rouge.
Abshire, J. T., LeRoy.

MARYLAND.

Whaley, C. C., Baltimore.

MASSACHUSETTS.

McLaughlin, Henry V., Brookline.
Sullivan, Florence A., Haverhill.
Hannum, James W., Ludlow.
Roberts, Oscar S., Pittsfield.
Squier, Angelo O., Springfield.

MICHIGAN.

Dulitz, Paul C., Detroit.
Pedden, John, Petoskey.
Maddox, William H., Tecumseh.
Rigterink, John W., Freeport.

MISSISSIPPI.

Miller, John D., Brunswick.
Harris, William T., Rich.
Hayden, E. Forrest, Shaw.

MISSOURI.

Landaker, Chester L., Collins.
Craven, Y. D., Lawson.
Nulton, Ida M., Columbia.
McMichael, Austin, Rock Port.
Rothwell, Clarence A., Mexico.
Anderson, H. Claude, Kansas City.
Rohiffing, L. C., St. Louis.
Bradley, W. E., Ethel.
Shole, H. G., Paris.

NEBRASKA.

Tanner, Edward, Battle Creek.
Christensen, C. J., Hampton.
Wightman, William C., Wayne.

NEW HAMPSHIRE.

Berry, John J., Portsmouth.

NEW JERSEY.

Cossitt, Harry A., Morris Plains.

NEW YORK.

Daniels, John H., Buffalo.
Church, Thos. C., Valley Falls.
Nelson, Stuart W., Old Forge.
Goss, Alfred, Adams.
Satterlee, Albert R., Buffalo.
Weiss, George C., Mt. Vernon.

NORTH CAROLINA.

Johnson, Thos. Clarence, Tomahawk.
Anderson, Albert, Wilson.
Poole, C. M., Craven.

OHIO.

McClellan, James S., Bellaire.
Chamberlain, Robert C., Tiffin.
Johns, John, Martins Ferry.
Holland, Arthur B., Wellsville.
Beall, J. T., Coshocton.

OKLAHOMA TERRITORY.

Rosenberger, Francis E., Lawton.

PENNSYLVANIA.

McCormick, Louis P., Connellsville.
Dourville, Jeffrey C., North East.
Heard, James Louis, North East.
Fogleman, A. P., Munhall.
Tracy, Stephen E., Philadelphia.

SOUTH CAROLINA.

Geiger, Chas. B., Manning.
Horlbeck, Henry, Columbia.

SOUTH DAKOTA.

Clemons, E. Jay, Aberdeen.

TENNESSEE.

Howlett, Kirby Smith, Franklin.
Goltman, M., Memphis.
Miller, J. Preston, Nashville.
McClain, Wm. Ashbury, Sweetwater.
Howell, J. J., Greenville.

TEXAS.
Dyer, J. O., Galveston.
Knolle, Otto J., Industry.
Perkey, Adrian Benton, El Paso.
Bennett, Thos. Joshua, Austin.
Johnson, Callerider L., Dallas.
Baldinger, Wm. H., Galveston.
Chambers, Rufus, Fort Worth.
Pettway, Thos. R., Austin.
Moore, John Hamilton, San Antonio.
Hogsett, Chas. Young, Dallas.
Wolf, W. M., San Antonio.
Rape, Wesley A., Victoria.

UTAH.
Preece, Margaret A., Salina.

WASHINGTON.
Gosnell, John C., Whatcom.
Harbough, Chas. C., Sedro Woolley.

WEST VIRGINIA.
McGuire, Thos. Jos., Parkersburg.
Rose, L. O., Hinton.
Dye, Victor Hugo, Sistersville.
O'Grady, Chas., Charleston.

WISCONSIN.
Edwards, Sherman, Oakfield.

Medical Organization.

Lavaca County (Texas) Medical Association.

This association held a meeting at Hallettsville, July 13. The next meeting will be held in Yoakum in August, when an effort will be made to organize the counties of Lavaca, De Witt and Gonzales into an organization.

Galveston County (Texas) Medical Society.

This society has been organized with quite a large membership. The following officers were elected: Dr. Charles W. Trueheart, president; Dr. Oscar C. Pabst, vice-president, and Dr. Joseph C. Ralston, secretary-treasurer, all of Galveston.

Leon County (Texas) Medical Association.

Physicians of Leon County met at Marquez, July 22, and organized a county association, with an initial membership of 19. Dr. Sam R. Burroughs, Buffalo, was elected president; Dr. William T. Evans, Jewett, vice-president, and Dr. J. H. Joyce, Buffalo, secretary and treasurer.

Yazoo County (Miss.) Medical Society.

Pursuant to a call from Dr. J. Augustus Crisler, councilor for the Fifth District, a number of physicians met at Yazoo City, July 23, and organized a county medical society. The following officers were elected: President, Dr. James P. Moore, Jr., Yazoo City; vice-president, Dr. John Darrington, Yazoo City; secretary and treasurer, Dr. John McCormick, Yazoo City.

Kaufman County (Texas) Medical Association.

This association met at Kaufman, July 14, and organized under the regulations of the state and National associations, with the following officers: Dr. William H. Monday, Terrell, president; Dr. Burrel J. Hubbard, Kaufman, vice-president; Dr. Willis J. Pollard, Kaufman, secretary, and Dr. Delana P. Hicks, Kaufman, treasurer. The next session will be held in Terrell October 13.

Moniteau County (Mo.) Medical Society.

At a regular meeting of the John McDowell (district) Medical Society, which has existed for twenty-five years, held at California, it was decided to disband. After adjournment *sine die*, twelve physicians of Moniteau County met and organized a county medical society, with Dr. John B. Stewart, Clarksburg, president; Dr. Philip Stephens, California, secretary, and Dr. Hugo C. Klueper, California, treasurer. The society will meet August 20 to perfect organization.

Wabasha County (Minn.) Medical Society.

At the thirty-fifth annual meeting, held in Elgin, July 9, it was voted to reorganize the society in conformity with the plan suggested by the American Medical Association. The following offices were elected: Dr. William T. Adams, Elgin, president; Dr. John C. Adams, Lake City, vice-president; Dr. William F. Wilson, Lake City, secretary; Dr. Emery H. Bayley, Lake City, treasurer; Drs. Joseph F. Bond, Wabasha, Jesse A. Slocumb, Plainview, and H. T. McGuigan, Millville, censors, and Dr. William F. Wilson, Lake City, delegate.

Travis County (Texas) Medical Society.

Pursuant to call from Dr. Thomas J. Bennett, Austin, councilor for the Seventh (Austin) District, 36 physicians of Travis County met at Austin, July 18, and organized a county medical society on the plan suggested by the American Medical Association and adopted by the Texas State Medical Association at its last meeting. The following officers were elected: Dr. Benjamin M. Worsham, Austin, president; Dr. Frank a Maxwell, Del Valle, vice-president; Dr. Matthew M. Smith, Austin, secretary-treasurer, and Drs. William T. Richmond, Manor, S. E. Hudson, Austin, and Thomas R. Pettway, Austin, censors.

Grant County (Wis.) Medical Society.

Of the 48 physicians of Grant County who had invitation to a dinner given by Lancaster physicians, July 23, 22 attended, and after dinner the Grant County Medical Society was organized. An informal meeting was held first, of which Dr. James Oettiker, Platteville, was made chairman, and Dr. John A. Gault, Lancaster, secretary. The following officers of the permanent organization were elected: President, Dr. Joseph Godfrey, Lancaster; vice-president, Dr. James Oettiker, Platteville; secretary and treasurer, Dr. Peter L. Scanlan, Lancaster; delegate, Dr. Jonathan C. Betz, Boscobel, and censors, Drs. James M. Lewis, Bloomington, John F. Metcalf, Fennimore, and Guerdon Buck, Platteville. The constitution and by-laws as suggested by the American Medical Association were adopted. The next meeting will be held at Lancaster September 10, when a literary program will be carried out. The place of meeting is to be decided at each meeting, but the time for meetings is the second Thursday of May, September and December of each year.

Societies.

Winnebago County (Iowa) Medical Society.—The annual meeting was held at Forest City, July 22. Dr. Harry R. Irish, Forest City, was elected president; Dr. Ferdinand A. Christensen, Lake Mills, vice-president; Dr. Luther Wall, Thompson, secretary, and Dr. Gissle M. Lee, Thompson, treasurer. The next meeting will be held at Buffalo Center.

Upper Peninsula (Mich.) Medical Society.—The ninth annual meeting was held at Sault Ste. Marie, July 15 and 16. The following officers were elected: Dr. Emil H. Webster, Sault Ste. Marie, president; Drs. Thomas M. Cunningham, Marquette, and C. Frithiof Larson, Crystal Falls, and Dr. S. Edwin Cruse, Iron Mountain, secretary and treasurer. The society will meet next year in Marquette.

Connecticut Members American Medical Association.—The second annual reunion will be held at Savin Rock, August 24. Members are requested to bring their families, and also any eligible candidate for membership in our organization. In order to facilitate the necessary arrangements for the dinner it will be desirable for all who propose to attend to send word before August 18 to the secretary, Dr. James M. Keniston, Middletown, Conn.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES.

Minutes of the Thirteenth Annual Meeting, held at New Orleans, May 4, 1903.

(*Continued from page 330.*)

Revision of Constitution.

Dr. D. A. Thompson, Indianapolis, moved that the majority report be received and that the amendments as suggested be laid on the table. Seconded by Dr. P. Richard Taylor. Motion lost.

Dr. Randolph Winslow, Baltimore, moved that the proposed changes, if adopted, go into effect Jan. 1, 1906. Seconded by Dr. Geo. F. Jenkins.

Dr. A. R. Baker, Cleveland, offered as an amendment to this motion that the time be changed to July 1, 1905. The amendment was accepted by Dr. Winslow and his second and carried.

On motion of Dr. Walker the new Article III as amended by the committee preparing it, was taken up section by section before its final disposition.

Section 1 was read as amended.

Dr. Seneca Egbert, Philadelphia, amended this section by adding after the list of studies:

That certificates from reputable instructors recognized by the superintendents to be hereinafter mentioned may be accepted in lieu of any part of this examination.

On motion of Dr. Walker the section was adopted as amended.

Sections 2, 3, and 4 were then read and adopted as read.

Section 5 was then read. Dr. P. Richard Taylor, Louisville, moved to amend this section as follows: "That at least twelve months shall intervene between the beginning of any course and the beginning of the preceding course" be stricken out. Seconded by Dr. W. A. Evans, Chicago. Motion was lost. (Nays, 21; yeas, 11.)

On motion Section 5 was adopted as originally read.

Section 6 was read.

Dr. Randolph Winslow, Baltimore, moved to strike out:

Credit for full year of time may be given students holding the degree of A.B., B.S. or other equivalent from a reputable university or literary college.

Seconded by Dr. David Streett.

Dr. H. B. Ward, Lincoln, Neb., offered the following amendment to the amendment:

To add to Section 6, "Provided such degree represents not less than 900 hours of definite premedical work in laboratory science."

Seconded. The amendment was lost. (Nays, 22; yeas, 9.)

Dr. J. M. Dodson, Chicago, offered the following amendment to this section:

Credit may be given to the holder of a bachelor's degree from a reputable college or university for any work in the medical branches which he has successfully completed in his college course, and that is the full equivalent of corresponding work in the medical curriculum. Such student may be allowed to complete the course for the medical degree in not less than thirty-one (31) months, provided he completes the remainder of the medical curriculum in that time.

Seconded and carried.

On motion Section 6 was adopted as amended.

Section 7 was read and adopted as read.

On motion of Dr. Dodson Article III was adopted in its entirety.

The chair appointed the following nominating committee: Drs. Wm. J. Means, R. Winslow and T. J. Hawkins.

On motion, the Association adjourned until 8 p. m.

Evening Session.

The Association reassembled at 8 p. m., and was called to order by the president.

The report of the secretary-treasurer was called for and read, and, on motion of Dr. Wathen, was accepted as read.

Report of Judicial Council.

Dr. Wm. J. Means, chairman of the judicial council, reported as follows:

Mr. President, Members and Delegates of the Association of American Medical Colleges:

The report of the judicial council for the last year will necessarily be brief. Aside from the correspondence of the chairman and the disposition of applications for membership in the Association from a number of colleges, only one important matter came before the committee for adjustment.

Communications were received from a number of colleges of the Association and from other sources asking information on the eligibility of students to certain standing and for a construction of particular paragraphs of the constitution and by-laws. The chairman assumed the responsibility of replying to these communications without submission to the other members of the council. His opinion seemed to be satisfactory in every instance, therefore further submission of the inquiries was unnecessary.

There were a few complaints of irregularities against colleges of the Association, but inasmuch as they were not filed regularly they were not considered.

The year as a whole has been a very satisfactory one. Judging from the tenor of the communications from the officials of the different colleges, it is the opinion of the chairman that an honest effort is being made to comply with the rules of the Association and that commendable work is being done toward a higher standard in medical education

Entrance qualifications and time requirements are matters that come to the judicial council more than any others for adjudication. Fortunately for the Association a number of states by legal enactment have fixed the academic qualification for students and also the time requirements for a medical course. In a few of these states the right to examine applicants as to their literary qualifications for entering a medical college has been taken away from the college faculties and placed in the hands of examiners appointed by the state board. This is a step in the right direction. It will do more to raise the standard of preparatory education than anything else.

Through the efforts of the National Confederation of State Medical Examining Boards and the profession at large, every year adds other states to this list. With the present tendency it looks as though the day was not far distant when there will be uniform standards and reciprocity among the various states in the Union. Then the purpose of the College Association will be as it should be, purely educational, and the work of the judicial council perfunctory. Under the present conditions the Association is in an anomalous position. Owing to the low standard of entrance requirements and short terms, the diplomas of a large number of colleges, members of the Association, are not recognized in several states. It is, therefore, impossible for the medical colleges in these states to recognize the credentials of their fellow members. This condition of affairs should not obtain.

The charges preferred against the Milwaukee Medical College at the last session of the Association were taken up, and by mutual consent of the parties interested, Dr. R. O. Beard, secretary of the faculty of the University of Minnesota, was selected to make the examination. His expenses were paid by the accused college.

He made a thorough investigation and submitted the testimony in detail, and his finding thereon to the chairman of the judicial council. The testimony and Dr. Beard's report were submitted to Drs. Ritchie, Dodson, Griffith, Hawkins and Means. Dr. Welch, elected a member of the judicial council at the meeting in Saratoga, refused to serve. The proceedings were not sent to Dr. Keen of Philadelphia. The five members above mentioned, after examining the testimony, voted unanimously to sustain the findings of Dr. Beard. Said report is herewith submitted for your consideration.

REPORT OF SPECIALLY APPOINTED COMMISSION.—R. O. BEARD.

"The undersigned begs to report (1) that at the instance of your body he conducted at Milwaukee, Wis., on July 15, 16 and 17, 1902, an investigation into the charges preferred by the Milwaukee County Medical Society against the Milwaukee Medical College.

(2) That these charges were revised at the opening of the investigation; that by request of the preferrer the charge respecting the conduct of unwarrantable obstetrical demonstrations was withdrawn; that by the decision of your investigator, the charges covered by specifications 4 and 5, as originally stated, were ruled out, on the ground that they did not involve any issue pertinent to the rules of the Association, unless it could be shown that the Milwaukee Medical College was prejudiced educationally by its financial ownership and control; and that if it were so prejudiced educationally, that fact would in itself disqualify its membership in the Association without reference to its financial status.

The charges, as revised, by consent of both parties to the investigation, are as follows:

CHARGE I.

The Milwaukee Medical College does not require sufficient preliminary education of applicants, as a requirement for admission to its courses.

It admits students without preliminary training, thus violating the standard laid down by the statutes of the State of Wisconsin and the National Association of American Medical Colleges.

The institution gives credit so as to entitle students to advanced standing without presenting the necessary educational credentials for such credit.

CHARGE II.

The Milwaukee Medical College has violated the medical laws of this state in that it does not give the required courses of study as far as time devoted thereto is concerned.

The catalogue of the College advertises two or more courses of fourteen weeks each in one year, and states that credit is given for one year's work on completing two terms, thus enabling students to complete a course of four years in less than three.

The college advertises courses of lectures by professors who are not and were not connected with the institution, and did not give the lectures advertised.

The college allowed one man to fill four or five chairs, thus not having a complete faculty as advertised.

The Milwaukee Medical College during the past year has had no adequate course in anatomy.

The college is not giving the educational examinations on entrance to the course of study.

CHARGE III.

The Milwaukee Medical College has granted diplomas to persons unfit both from an educational and moral standpoint to practice medicine.

The college has granted diplomas to students who failed to pass the requisite examinations.

The Milwaukee Medical College allowed men to practice medicine before completing their course and receiving their diplomas.

(3) That exception was taken by the defendant college to the charges, on the score of their alleged non-specific character. Your investigator ruled in favor of the adequacy of the charges, provided they were specifically sustained by evidence.

That your representative ruled that evidence tending merely to show infraction of the laws of the state of Wisconsin was incompetent, since the rules of the Association are not coincident with or dependent on the statutes of any state; that such evidence could only possess a secondary value as corroborative of proof that the defendant was in violation of the Association rules.

That he further excluded all evidence tending simply to show personal bias or local prejudice in either party and required that evidence to be acceptable should deal only with questions of fact, or of professional opinion of the facts based on sufficient experience in the premises.

(4) That the following are his findings on the several charges, based, in his judgment, on the evidence submitted and the records of the Milwaukee Medical College:

(I) The charge that the Milwaukee Medical College has admitted students to its courses without the preliminary education required by the rules of the Association is sustained:

(A) In that the college has accepted inadequate credentials in proof of such education.

(B) In that it has admitted students unpossessed of such credentials without submitting them to the examination required by the rules of the Association.

The further charge that it has admitted students to advanced standing whose credentials did not entitle them to the same, is sustained.

(II) The charge that the Milwaukee Medical College has not required its students to fulfill the four years' course of study, each year to represent a period of not less than six months, no two of which periods shall be taken in the same year, is sustained by the evidence and by the published announcement of the college, 1901-02, page 16.

The charge that the college has advertised the employment of professors who were not connected with the institution is technically sustained, but is traceable to circumstances which the college could not at the time control.

The charge that the college allowed one man to fill several chairs at one time is sustained by the facts; this course being, however, in the judgment of your investigator, an unwise method of filling certain vacancies in the faculty for which the college was not initially responsible.

The charge that the college has had during the past year incomplete and deficient facilities for the study of anatomy is sustained, at least so far as a part of the year is concerned.

The charge that thorough or adequate examinations are not given by the college on entrance to a course of study, is sustained so far as entrance examinations are concerned, but rests on hearsay and contradictory evidence, and is not, in the judgment of your investigator, proven so far as its professional examinations are concerned.

(III) The charge that the Milwaukee Medical College has granted its diploma to persons notoriously unfit, both from an educational and moral standpoint, is sustained on the question of educational unfitness. There is no evidence to show that the college was aware of any moral unfitness in its graduates, although it does not appear to have concerned itself to ascertain their moral status.

The charge that the college has given its diploma to students who failed to pass the requisite examinations is sustained in the fact that it has permitted certain students to substitute for otherwise unremoved conditions, altogether inadequate courses of study. Its rating for the passing of students in all branches has been unfortunately low.

The charge that the college has allowed students to practice medicine before completing their course and receiving their diploma is not sustained since the college has the power neither to permit nor to prevent such illegal practice. It has undoubtedly permitted students to leave the college and abandon study before they had completed the course required by the rules of the Association, although the evidence shows that the college sought to correct this error during the last term of 1902 by its recalling its students.

Your investigator does not deem it any part of his duty in the premises to recommend any action on this report, either by the Association or its judicial council. Respectfully submitted,

[Signed.] R. O. BEARD, M.D.

Minneapolis.

NOTE.—The evidence given at the investigation of the Milwaukee Medical College by the Wisconsin State Board of Medical Examiners was made by consent the basis of this investigation and the testimony therein given by each witness was read and substantiated or amended by him and used as a foundation for further examination. This previous evidence is therefore embodied in this report.

By personal request of Dr. W. H. Earles of the Milwaukee Medical College, affidavits are introduced in counteraction of evidence given regarding his attitude toward the Wisconsin Medical Practice Act, although such evidence is not regarded by your investigator as pertinent or relevant to this issue."

Application for membership was made by the College of Physicians and Surgeons at Kansas City, Kans. A thorough and impartial examination was made of the facilities of the college, its curriculum and requirements. The former were found quite limited, and judging from information derived from various sources, its requirements are below those of the Association. The council, therefore, recommended the rejection of the application.

Application for membership was made by the University of Missouri situated at Columbia, Mo. The council recommends recognition of the medical department of said university for the first and second years of a medical course, but inasmuch as the clinical facilities must necessarily be limited in a city of the size of Columbia, it is thought best to withhold recognition and membership for the third and fourth years until the college can demonstrate ample clinical facilities for these years.

Application for membership was made by the medical department of the University of Tennessee situated at Jackson. The council recommends that action be deferred until the college can be investigated, and that the investigation be referred to Dr. Means.

Application for membership was received from the Memphis Medical College, but was later withdrawn.

Application from the University of West Virginia at Morgantown for recognition and membership of the first two years of a medical course was received and the council advises that action be deferred until an investigation can be made. The matter was referred to Dr. Dodson for investigation.

Application of Bucknell University of Pennsylvania made at the last annual meeting, referred to Dr. Keen of Philadelphia, was withdrawn.

Application for membership was received from the Dallas Medical College, Dallas, Texas. The council advises that action be deferred until the next annual meeting, and that Dr. J. D. Griffith of Kansas City, Mo., be requested to investigate the college.

Application was received for membership from Wake Forest College, at Wake Forest, North Carolina. The council advises that action be deferred and that Dr. Winslow of Baltimore be requested to examine into the merits of the college.

An application for membership was received from the University of Mississippi located at Jackson. The council asks for further time to investigate the college, and has referred the application to Dr. Means.

This concludes the report of the judicial council. We thank the official members of the Association for their kindly assistance in the work brought before them.

[Signed.] W. J. MEANS, Chairman.
J. M. DODSON,
H. B. WARD,
R. WINSLOW,
T. H. HAWKINS.

Dr. W. A. Evans, Chicago, moved that the report of the judicial council be accepted and that the Milwaukee Medical College be censured. Seconded by Dr. A. H. Levings.

Carried.

Dr. W. H. Earles, dean of the Milwaukee Medical College, expressed his thanks on behalf of his college for the leniency of the Association.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Medicinal Treatment of Hyperchlorhydria.

A. A. Jones, in the *Internat. Med. Magazine*, states that in considering the treatment of hyperchlorhydria the following conditions must be corrected: 1. The excessive acidity. 2. Constipation. 3. The pain which comes on at the height of digestion. He states that in the majority of the cases of hyperchlorhydria the following powder gives prompt relief:

℞. Cerii oxalatis	ʒi	4
Bismuthi subcarb.	ʒii	8
Magnes. carb. levis.	ʒiv	16

M. Sig.: From one-quarter to a heaping teaspoonful stirred in a quarter of a glass of water, to be taken two hours after each meal.

If pain and constipation persist extra doses should be administered. He advises against the administration of alkalies before meals, unless there is co-existing atony. In his experience a combination of potassium bicarbonate, sodium bicarbonate, and sodium and potassium tartrate are very effectual in the treatment of hyperchlorhydria, especially when there is constipation present, accompanied by drowsiness and headache. These preparations may be combined in the following proportions:

℞. Potass. bicarb.	ʒii	8
Sodii bicarb.	ʒiv	16
Sod. et potass. tartratis	ʒi	30

M. Sig.: One even teaspoonful dissolved in water at 10 a. m., 4 p. m., and 9 p. m.

The alkaline and saline waters are of service, such as the Vichy and Carlsbad waters.

The bromids, given in 10-gr. (.60) doses after meals, diminish the secretion of the hydrochloric acid through their influence on the nervous system.

Locally silver nitrate produces the best effects, administered in the form of a douche or intragastric spray in the strength of 1 to 1,000. Chloretone is also mentioned by the author as of service in allaying the burning distress and pain, given in 5-gr. (.30) doses night and morning. As an adjuvant treatment, to relieve the pain, the following combination is recommended:

℞. Cocainæ muriatis	gr. ss	03
Acidi hydrocyanici dil.	gtt. v	30
Aquæ lauroceresi	ʒss	2

M. Sig.: At one dose, to be repeated if necessary to relieve the pain.

Ringworm.

In the treatment of ringworm appearing on the body, the following, according to *Merck's Archives*, is of service:

℞. Naphthol (resublim.)	ʒss	2
Olei picis liquidæ	ʒss	2
Sulphuris	ʒi	4
Lanolini	ʒv	20

M. Ft. unguentum. Sig.: Apply locally night and morning; or:

℞. Chrysarobin	gr. xl	2 65
Ichthyol	ʒi	4
Acidi salicylici	gr. xv	1
Ol. petrolati	ʒss	15
Lanolini	ʒi	30

M Ft. unguentum. Sig.: Apply locally twice daily.

The iodin preparations are frequently employed to destroy the parasite. They may be combined as follows:

℞. Iodi	ʒss	2
Potassii iodidi	gr. xv	1
Alcoholis	ʒii	8
Aquæ	ʒss	15

M. Sig.: Apply locally twice daily by means of a brush.

J. Nevins Hyde recommends some of the simpler remedies as serviceable in the treatment of ringworm of the body:

℞. Lac. sulphur.	ʒiiss	10
Spts. saponis viridis		
Tinct. lavendulæ, ää	ʒvi	24
Glycerini	ʒss	2

M. Sig.: To be applied locally; or:

℞. Iodi (pure)	ʒi	30
Olei picis liq. (sp. gr. .853)	ʒss	15

M. (These preparations should be mixed with care gradually.) Sig.: Apply locally; or:

℞. Creosoti	m. xx	1 30
Olei codini	ʒiii	12
Sulphuris precip.	ʒiii	12
Potassii bicarb.	ʒi	4
Adipis	ʒi	30

M. Sig.: To be used locally in obstinate cases of ringworm of the adult.

Night-sweats.

Ladisl, according to an abstract in *Amer. Med.*, considers gua-camphol the best remedy in checking night-sweats. It should be given in 3 to 5 gr. doses (.20-.30) and continued over a period of two weeks. This preparation is insoluble in an acid medium, but breaks up into guaiacol and camphoric acid when reaching an alkaline medium in the intestine.

Acute Articular Rheumatism.

The *N. Y. Med. Times* recommends the following outline of treatment in acute rheumatism:

℞. Sodii iodidi	ʒii	8
Sodii salicylatis	ʒiii	12
Syr. sarsap. comp.	ʒiii	90

M. Sig.: One teaspoonful after each meal in water.

Locally the following:

℞. Olei gaultheriæ	ʒss	15
Linimenti chloroformi	ʒiss	45

M. Ft. linimentum. Sig.: To be applied locally night and morning.

As a combined alkaline and salicylate mixture the following may be given, which is according to the formula of Whitla:

℞. Sodii salicylatis	ʒiv	15
Potassii bicarb.	ʒv	20
Liq. morphinæ hydrochloridi (1 per cent.)	ʒi	4
Aquæ camphoræ q. s. ad	ʒviii	240

M. Sig.: One tablespoonful four times a day in one-half a glass of water.

Furuncles.

M. Cohn, in *Monat. Pract. Dermat.*, recommends the following combination as a very efficient local remedy in the treatment of boils:

℞. Ichthargin	ʒi-iiss	4.-10
Aq. destil.	ʒi	4
Glycerini	ʒiiss	10
Ol. petrolati	ʒi	30
Lani	ʒiss	45

M. Ft. unguentum. Sig.: Apply locally around the boil and over it.

The inflammation, according to the author, subsides in a short time, when the ointment may be replaced by a 1 per cent. ichthyol ointment.

To abort furuncles, pure carbolic acid introduced into the center of the inflamed area is of value. It may be applied in this way by simply dipping a sharp toothpick made of hard wood into the pure solution, and by rotating it and applying gentle pressure it will penetrate the skin without any pain, as the carbolic acid will act as a local anesthetic.

The following combination applied topically has been employed to abort furuncles:

℞. Europhen	ʒi	4
Olei olivæ	ʒii	8
Lanolini		
Ol. petrolati, ää	ʒv	20

M. Sig.: Apply locally and cover the area with sterilized gauze.

Sodium Cacodylate.

The following combinations containing sodium cacodylate are recommended by *Bul. Gen. de Ther.* Where it is necessary to prevent disturbance of the digestive tract the following may be administered hypodermically:

℞ Sodii cacodylatis ..... gr. c | 6 |65
Liq. acidi carbolici ..... gtt. x | |65
Aquæ destil. ..... ℥iiiss | 105 |

M. Sig.: Fifteen drops to be injected once or twice daily.

As a rectal injection the following solution may be employed:

℞ Sodii cacodylatis ..... gr. iii-vi |20-40
Aquæ destil ..... ℥vi | 180 |

M. Sig.: At one dose introduced per rectum and retained. Two injections may be given daily for six days, three daily for ten days. The remedy should be stopped then for three days and repeated as before.

In the treatment of skin diseases it is of value given internally in the pill form:

℞ Sodii cacodylatis ..... gr. iss |00
Extracti gentianæ ..... gr. i |06

M. Ft. pilula No. i. Sig.: One such three times a day after each meal; or in the form of a mixture as follows:

℞ Sodii cacodylatis ..... ℥ss | 2 |
Spts. frumenti ..... ℥vss | 22 |
Syr. simplicis ..... ℥iv | 15 |
Ol. menth. pip. ..... gtt. ii | | 12
Aquæ destil. ..... ℥ii | 60 |

M. Sig.: One teaspoonful in water after each meal.

Summer Diarrheas in Children.

Leo Ratner, in *Merck's Archives*, states that the treatment of summer diarrheas, as of all gastrointestinal trouble, may be divided into hygienic, dietetic and medicinal. He quotes several formulæ, recommended by Winter, for the home modification of bottled milk. Beginning with a formula suited to an infant one week old this formula is changed to suit the age and needs of the infant until the ninth month.

As to the medicinal treatment, he recommends the usual employment of small doses of calomel as the initial medication followed by intestinal astringents. He is averse to the employment of toxic preparations such as resorcin and naphthalin as they tend to lower the vitality of the infant.

He favors the use of tannalbin and ichthalbin as follows:

℞ Tannalbin ..... ℥ii | 8 |
Ichthalbin ..... ℥i | 4 |
Pulv. cinnamomi ..... gr. vi | | 40

M. Ft. chart. No. xxiv. Sig.: One or two powders at one dose, according to the age, and repeated three to six times a day; or:

℞ Tannalbin ..... ℥i | 4 |
Bismuthi subnit. ..... ℥i | 4 |
Magnesiæ (calcined) ..... ℥ss | 2 |

M. Ft. chartulæ No. xii. Sig.: One powder every three hours; or:

℞ Tannalbin ..... ℥ii | 8 |
Bismuthi subnit. ..... ℥ii | 8 |
Mist. cretæ ..... ℥iii | 90 |

M. Sig.: Shake the bottle. One teaspoonful every three to six hours; or:

℞ Tannalbin
Ichthalbin
Bismuthi subnit., ää ..... ℥i | 4 |
Tinct. opii camph. ..... ℥iv | 15 |
Syr. rubi ideai ..... ℥i | 30 |
Aquæ q. s. ad ..... ℥iii | 90 |

M. Sig.: Shake. One teaspoonful every one or two hours; or:

℞ Tannalbini ..... gr. xx | 30 |
Ichthalbini ..... gr. x | 65 |
Tinct. opii ..... m. ii | 12 |
Aquæ amyli ..... ℥ii | 60 |

M. Sig.: Shake. At one dose per rectum. The author, as noted in the foregoing, uses opium in some of the combinations, which is, in his opinion, of great value, after thoroughly emptying the bowel, but he condemns its use before the putrid contents are removed.

Ointment of Adrenalin.

M. Mignon, in *Sem. Méd.*, recommends an ointment of adrenalin rather than the aqueous solution in relieving the congestion and swelling of the turbinated bodies. He employs the following combination for local application:

℞ Adrenalin ..... gr. ss | 03 |
Olei geranii ..... gtt. iii | 20 |
Olei petrolati ..... ℥iii | 12 |
Lanolini ..... ℥iv | 15 |

M. Ft. unguentum. Sig.: To be applied freely to the nares with an applicator.

Although this ointment is slower in its action than the 1:1000 aqueous solution, the effects last much longer. He recommends it in acute congestions of the nasal mucous membranes and to prevent secondary congestions after cauterizations.

Medicolegal.

Delirium Resulting from Illness.—The Court of Appeals of Kentucky holds, in Supreme Lodge Knights of Honor vs. Lapp's Administratrix, that where a person was suffering from violent pains in the head, which had continued for some time, and seemed to be wandering and distrait, there was at least ground for the conclusion that he was suffering from delirium resulting from illness. And there being no other reason shown for his committing suicide, it holds that the question of whether he committed it in delirium resulting from illness was properly left to the jury, under a benefit certificate which provided that the order would not pay the benefits of those members who committed suicide, whether sane or insane, except it be committed in a delirium resulting from illness, etc. It would be an extension of contract, the court holds, to say the word "illness" referred only to such a sickness as confined the insured in bed.

Asking About Views of Others—Cross-Examination.—The Supreme Judicial Court of Massachusetts holds, in the personal injury case of Root vs. the Boston Elevated Railway Company, that a medical witness was not called on to say what the views of other surgeons might be, or as an expert to determine whether medical men would not differ in opinion when asked about the effect on the health of the individual of certain physical conditions. It appearing that the party suing did not call as a witness a physician, who, previously to the trial, at her request, made an examination of her physical condition, and that the company then called him, the court says that it might be inferred that his testimony was not wholly favorable to her contention as to the extent of her injuries, and that it was proper to ask him on cross-examination as to how far he required from a patient a full disclosure of symptoms and history of the case. This, it says, would be necessary to furnish data on which to base an opinion. And it holds that it could not be said that the further question as to whether he disclosed the information thus obtained to other persons was outside the limits of a reasonable cross-examination.

Responsibility of Patient in Personal Injury Case.—The Supreme Court of Missouri, Division No. 2, says in the personal injury case of Elliott vs. Kansas City that the question with which it was confronted was whether a person who has been injured by the negligence of another and who employs a reputable physician to treat him for the injury, is responsible for the mistakes and errors of judgment of the physician, and also, if he is told by his physician that no futher treatment is necessary, is he responsible if he could have been benefited by medical treatment? In its answer it says that it seems, both on reason and authority, that when a person is injured by the negligence of another he is bound to use ordinary care to the end of his restoration or cure, and is not responsible for the mistakes of an attending physician, and when he acts in good faith under the direction of such physician any mistake of the latter in the treatment will not absolve the party whose negligence caused the injury from liability in damages therefor. And it holds that, while the party suing in this case was not entitled to recover damages for such conditions as were entirely due to her previous injury or disease, if any such state

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of facts existed, she was entitled to have considered by the jury, in estimating her damages, any injury that may have been caused by improper medical treatment.

Evidence and Award in Compound Fracture Malpractice Case.—The Supreme Court of Nebraska holds, on the appeal of Leisenring vs. La Croix, that, in an action against a physician and surgeon for alleged negligent treatment of a compound fracture of the bone, it is permissible to show by another surgeon what would be the proper treatment for a simple fracture, and that the treatment for a compound fracture would not be materially different. In such an action it is proper to submit evidence relating to the condition of the patient's health at the time the treatment began, and also the length of time he was treated by others after the physician sued ceased to attend him, the jury being cautioned to compensate him only for such injury and damage as may have been caused by reason of the negligence of the physician sued. Where there was evidence that under proper treatment the fractured bone should have united within six weeks, and that the patient was confined under the physician's treatment for a period of fourteen weeks, most of the time in great pain, it was proper to submit to the jury the question whether the pain and suffering was caused by the physician's negligence, and to authorize a recovery therefor. A verdict for $1,140 in such a case, where the compound fracture was of the tibia and fibula of the right leg about three inches above the ankle, is upheld, when corrected by a remission of an item of interest erroneously allowed between the date of the injury and that of the judgment.

Liability of Hospital Patient for Medical Treatment.—The Supreme Court of Michigan says, in the case of Crumrine vs. Austin, that the latter being ill, his physician advised his brother that he had better go to a hospital. At the suggestion of the patient or his broher, the physician had a conversation with some one at the hospital by telephone, and was told by him that it would cost $15 a week for a private ward, and that would include room, board, nursing, and medical attendance, and that he communicated this to the patient. On cross-examination, however, the physician qualified the above statement, made on his direct examination, by stating that he was told over the telephone that the price included the attendance of a house physician and nursing, and that nothing was said about an operation. Nothing in the testimony indicated that the nature of the illness was mentioned in the conversation by telephone. The patient was removed to the hospital, where he remained several weeks. He was operated on by the physician bringing this action, who was called by the house physician, and who rendered him daily service by dressing his wound for a time. When the house physician did so on one occasion, the patient objected, and expressed a preference that the physician suing should continue to dress his wound, and a willingness to pay extra if he would, and the physician suing performed that service thereafter. The patient paid the hospital the sum of $15 per week in advance, but was surprised to receive a bill from the physician suing of $200 for the operation, and a total of $167 for other attention. The physician testified that the price charged was reasonable, unless it be considered qualified by the statement that the charge in such cases depends on the ability to pay, and his conversation with the patient, from which it might be inferred that physicians "regulate their fees by the financial standing of their patients," and that "persons who have political jobs are made to pay for cases where doctors work for nothing," which the patient stated that the physician suing told him, and the physician denied. The case was left to the jury, and a verdict was found of $00 for the physician, who thereafter appealed. The Supreme Court says that the verdict indicated that the jury must have found that the contract was as claimed by the patient, namely, to include the cost of the operation in the price given of $15 per week. The physician who telephoned for him was his agent, and neither the hospital nor the physician suing was bound by any misapprehension on the part of the physician who telephoned, or misunderstanding growing out of his inaccurate report to the patient of the terms offered. We must conclude from the undisputed testimony that the attendance of a house surgeon only was offered, and that neither party spoke of an operation. There was nothing to indicate that the hospital authority who talked with the telephoning physician had any reason to suppose an operation was contemplated, and, if that physician had one in contemplation, it was not mentioned. He asked for the house surgeon, and it was reasonable to suppose he knew the duties of such an officer; also that his patient would be expected to enter the hospital subject to its rules, whatever they were, except as they might be modified or affected by the conversation. A by-law introduced showed that the house surgeon was not given charge of patients. The trial court could properly have said that the contract was not proved as claimed by the patient. He would then be liable for the reasonable value of the services rendered. The physician suing was injured by an instruction which permitted the jury to exclude the value of the operation and early attention from the sum allowed. On the other hand, the reasonable value of the services was a question for the jury.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal.

July 23.

1 The Shattuck Lecture Before the Massachusetts Medical Society, June 9, 1903: The Sources, Favoring Conditions and Prophylaxis of Malaria in Temperate Climates, with Special Reference to Massachusetts. Theobald Smith.
2 *Studies on the Action of Alcohol in Disease, Especially on the Circulation. Richard C. Cabot.

2. Alcohol.—Cabot studies the effects of alcohol in disease, taking special care to be unaffected by any prejudices he may have had in his method of study. He reviews the known facts of the effects of alcoholism on tissue change, digestion, absorption, diuresis, diaphoresis, respiration, circulation, blood pressure, etc. He notices also the tolerance of febrile patients for alcohol, and the psychic effects, both on the patient and the physician. He summarizes his conclusions in the following: 1. In 41 patients, mostly cases of typhoid fever, 1,105 measurements of the blood pressure were made before, during and after the administration of alcohol in therapeutic doses. Neither the maximum nor the minimum blood pressure showed any variations that could reasonably be referred to the action of the alcohol. So far as was determined by the methods and in the cases used in this research, the action of alcohol on the circulation was nil. 2. The same neutrality and apparent inertness of therapeutic doses of alcohol in relation to the temperature, pulse rate, respiration rate, appetite, sleep, delirium and secretions (renal and cutaneous) of 309 patients suffering from a great variety of diseases was the total impression derived from 2,160 observations in these cases. 3. These observations are not interpreted as proving that alcohol is useless or useful in disease. As a narcotic and vaso-dilator it may have an important place in therapeutics. 4. More important probably than any of the questions investigated so far is the problem of the effect of alcohol on the power of the sick man's blood to protect him against infection and other harmful influences. The studies of Abbott and of Mircoli have begun to clear a path in this direction, and we have a certain amount of evidence relative to a similar problem in the lower animals. But as the results of studies regarding the action of alcohol on animals or on healthy men can not be used as evidence of its action in sick men, there is a good field for experimental work in this direction along the lines of Ehrlich's newer methods.

American Medicine, Philadelphia.

July 25.

3 *Mycotic Enzymes. B. H. Buxton.
4 *Some Practical Considerations of the Tumefactions of the Climacteric Breast. Theodore A. McGraw.
5 *The Pathology of Latent Malarial Infection as Observed at Autopsy. Charles F. Craig.
6 *Fowler's Position in Abdominal Surgery. Van Buren Knott.
7 *The Diagnosis and Treatment of Inflammation of the Accessory Nasal Sinuses. Joseph S. Gibb.

3. Mycotic Enzymes.—Buxton's article elaborately details the physiologic action of ferments. He gives tables at the end of the bacteriologic species producing enzymes hydrating carbohydrates, and of the corresponding proteolytic enzymes digesting milk, gelatin, fibrin, etc.

4. Tumors of the Breast.—McGraw notices the different forms of breast tumors, and considers that many cases are not necessarily malignant. The benign swellings even in the climacteric period are much more common than is usually supposed. He

notices the different forms of milk cyst, the fibrous tumors, and the serous cysts. He identifies the latter largely by the use of the exploring needle, and would feel lost without the aid it gives. He notices, however, some diagnostic mistakes in his own experience. When the evacuation of the cyst contents does not cause an entire disappearance of the swelling but leaves behind a hardened lump, the pathologic condition may give considerable anxiety and trouble. He considers it then the proper time for an exploratory incision. He says in conclusion:

No breast ought to be adjudged cancerous without the most thorough examination by all possible methods, but when the surgeon, using his best judgment after full investigation, has come to the conclusion that he has to deal with a tumor of dangerous tendencies he should then operate on it so thoroughly as to destroy if possible every secondary growth, whether in fascia or muscle, skin or gland. He should assume that the skin above it, the fascia and muscle below and all of the neighboring lymphatic vessels and glands are already infected and should make the operation wide enough and deep enough to take in all of the suspected territory.

We can not as yet say that we can in this way cure all patients with the disease, nor even a majority of them, but we may truthfully claim to have had a success in a very large minority—which our predecessors in surgery never achieved.

I have now many patients who are living without recurrences after three, five, and ten years, and feel justified therefore, in spite of many discouraging failures, in recommending the operation as the only treatment which as yet has shown a fair measure of success.

Above all things, we should try to keep our patients out of the hands of the charlatans, who inflict on them indescribable tortures which in the very nature of things can not possibly be of service.

5.—See THE JOURNAL, July 11, p. 125.

6.—Ibid., Jan. 10, 1903, p. 118.

7. **Nasal Sinuses.**—Gibbs finds from his experience that in the acute form of nasal sinusitis, the ethmoid is most frequently involved, the next in frequency being the frontal. Acute sinusitis varies in intensity in great degree, and is usually unilateral, therefore the presence of a one-sided purulent discharge from the nose should excite suspicion. It is in the acute form that early recognition and prompt treatment are most important, and the object should be to obtain free drainage. It is usually a self-limiting process and if we keep the natural outlets free, it will greatly aid. In the use of vasoconstrictor drugs, we can do much to reduce the size of the cavernous tissue and keep open the various natural outlets. Some of the more severe cases may resist this plan, and may require a prompt and thorough evacuation of the pus contents. Of the chronic forms of sinusitis, the antral is most common, next, the frontal, and here a careful diagnosis is the first essential. He details the diagnostic points at length of the antral sinus inflammation. Transillumination is not infallible; amount of discharge and pain are only assistants to diagnosis. Failing to get at the diagnosis by other methods, we have a measure always to be left to the last, but which may combine both diagnostic and therapeutic values; that is, puncture of the antrum through the inferior meatus. The treatment is entirely surgical, but this puncture alone may, in many cases, be all that is required. He remarks, however, as to the use of more radical methods, especially that of Jensen, of opening through the canine fossa and making a flap of the nasal wall of the sinus, which is turned up and subsequently adjusted. Ethmoid sinusitis is noted also at some length. According to his personal experience the chief things in treatment are free drainage and thorough irrigation, and the operations of opening the sinus both by the open and closed method are described. Ethmoid sinusitis, if uncomplicated, is more amenable to treatment than either of the other varieties; but it is seldom altogether uncomplicated. The symptoms are much the same as those of the other types, only the obstruction and pain are usually more prominent and pronounced. There is a form of ethmoiditis occasionally met with, in which the inflammation is largely confined to the middle turbinate. It is a question whether it belongs to the type of disease under discussion, or is only a local expression of a constitutional condition, such as syphilis, tuberculosis, etc. The treatment consists simply in removing the hypertrophied turbinate by a cold wire snare, and treating antiseptically. Sphenoid sinusitis is the more difficult to treat, and requires more care in the operative management, on account of the important parts closely contiguous, but his remarks on this subject are comparatively brief.

Medical News, New York.

July 25.

8 Studies on the Action of Alcohol in Disease, Especially on the Circulation. Richard C. Cabot.
9 *Malignant Tumors of the Testis. William B. Coley.
10 *Alcoholism in Women. Agnes Sparks.
11 *Alcoholic Toxemia; Its Pathology and Treatment. Thomas D. Crothers.
12 Infant Feeding. A Science and Art. John F. Connors.
13 A Case of Panophthalmitis in Typhoid Fever. W. Whitehead Gilfillan.

9. **Malignant Tumors of the Testis.**—These, according to Coley, are much more likely to be sarcoma than carcinoma. They also, contrary to Butlin, are not infrequent in young adult life, between 20 and 30. As a cause, trauma plays a very prominent part. The diagnosis is not usually difficult, tuberculosis of the organ most closely simulating the condition. In sarcoma the tumor is of a uniform consistence, the reverse of which is the case in tuberculosis, the epididymis being harder than the testis proper. Coley does not agree with Kober as to the favorable outcome of these cases, but admits that most of those he has seen were not in the early stages where treatment might be expected to be most effective. The rapid course of the disease is somewhat notable, sarcoma being more early fatal here than in other parts, as a rule. The treatment, he holds, consists in the complete removal of the testis and cord as high up as the internal ring, as soon as the diagnosis is made. In addition, he would advise treatment with mixed toxin serums. The prognosis of teratoma is good, though recurrences and metastases do sometimes occur. He reports a number of cases illustrating the types.

10. **Alcoholism in Women.**—The danger of prescribing alcohol to women, and of secret drinking on their part, are noticed by Sparks, who reports a case. The risk, she says, of prescribing even beer, is large.

11. **Alcoholic Toxemia.**—Crothers notices the action of alcohol, and discusses the treatment of alcoholism. In delirium tremens, he believes in the early and complete cutting off of all stimulants, and the use of the absolute essentials—sharp purgation, and sweating. The best results follow the elimination by this double process. In addition, he speaks well of chloretone for the drug treatment. He has not noticed any cumulative action, and its hypnotic effect is rapid; nor does it seem to cause any disturbance of digestion, nor have any bad effect following its use. After-treatment should be salines and baths, the latter daily, together with bitter tonics. Arsenic is a valuable remedy, and also some preparations of phosphoric acid.

Medical Record, New York.

July 25.

14 *Some Cases Treated by the X-Ray. William James Morton.
15 *Congenital Laryngeal Stridor. James E. Newcomb.
16 *Perichondritis of the Larynx, with a Report of a Case. Emil Mayer.
17 Gouty Phlebitis. A. A. Getman and R. W. Amidon.
18 *Hybrid Malaria. J. Lindsay Porteous.
19 *Authority and Facts. J. R. Clemens.

14. **X-Ray Treatment.**—Morton gives the results of *x*-ray treatment in a variety of affections, including facial cancer, carbuncle, cheloid, acne, alopecia areata, sychosis, fibroid tumor, psoriasis and lupus. He has had good results in the latter affection from the use of a method with a lead shield arranged so as to expose one-half an inch of normal skin around the edges of the lupus, and treating with the *x*-ray three times a week until the sound skin presented an angry purplish red *x*-ray dermatitis, while the lupus itself began to appear swollen, angry, red, exuding serum, and elevated. Using the normal skin as a control and a guide, he has found that the lupus after stoppage of treatment at the stage mentioned, went on to a complete cure by itself; and the skin previously occupied with the disease is now natural. He now treats all cases of lupus with this plan of using the sound skin as a control, and finds it more successful than either milder or more excessive methods.

15. **Congenital Laryngeal Stridor.**—This condition Newcomb describes and states that it predominates in male babies, though

the reason for this is not given. He points out the diagnostic points and discusses the theories. He thinks it a temporary deformity, due to a change of relations between the throat muscles and those of the larynx with a possible added factor of nerve disturbance. It is furthered by a backward development and irritable weakness of the central breathing mechanism. There is in it a factor of developmental neurosis. On the basis of this theory, a general tonic treatment is all that is required.

16. **Perichondritis of the Larynx.**—The rarity of this condition in this country is noted by Mayer, especially as compared with continental Europe. He explains its pathology as first congestion, then inflammatory edema ending in ulceration and breaking down. Other views have been expressed, however, and the question as to whether the changes are specific is denied by the author. He discusses the authorities as to the germs present, and reports a case in conclusion, reviewing other cases of laryngeal stenosis that may be compared with his. He thinks that his own case is of interest on account of the early development of laryngeal symptoms, the enormous submucous infiltration both before and after tracheotomy, the success that followed dilatation, making intubation easy under anesthetics, and the consequent easy deglutition with the tube in place. He thinks that this is the first case thus successfully treated.

18. **Hybrid Malaria.**—Porteous describes a form of this disorder which has occurred in many cases in his region, in Yonkers, N. Y., which, for want of a better name, he designates as above. It may be defined as a remittent fever with or without rose spots, appearing at times solitary and at other times in groups, both on the abdomen and sides. The invasion is not so insidious as in typhoid nor so sudden as in malaria. There is no distinct chill, but a chilly sensation is felt. The bowels are usually constipated, abdomen slightly tympanitic, urine often high-colored and offensive, some drowsiness, relieved by exercise and purgation. In the second stage there is a rise of temperature to about 99½ in the morning and 100½ in the evening, with pain in back and limbs, gradually increasing. The temperature later rises to 102 in the morning and 104, and even more, in the evening; insomnia. Rose-colored spots generally appear about the fourth day. At times there is considerable tympanitis. Sometimes there is a muttering delirium resembling that of delirium tremens. The Widal test is negative in all cases. The duration is one to four weeks. The failure of the Widal test was against the diagnosis of typhoid, as was also the rapid onset, the absence of iliac pain or gurgling, the eruption coming early and disappearing gradually, and the sudden subsidence of the fever, and rapid recovery. Malaria can be distinguished from it by the absence of intermittent febrile conditions, by the rash and the absence of a regular chill. The most successful treatment of this hybrid malaria is large doses of Warburg's tincture. If the diarrhea is obstinate acetozone seems to overcome it.

19. **Authority and Facts.**—Clemens takes exceptions to three statements, which he says have acquired a certain authority: 1. That early albuminuria in cases of sore throat is suggestive of diphtheria as against scarlet fever; 2, that of the absolute constipation in acute intestinal obstruction; and 3, the alleged lowering of arterial tension by drugs in chronic renal headache cases. These assertions tend, he says, to a routine practice, which is distinctly dangerous.

New York Medical Journal.

July 25.

20 *Removal of the Internal Jugular Vein and Carotid Arteries in Order to Remove a Tumor in the Left Side of the Neck. Neil MacPhatter.

21 *The Irritability of the Facial Muscles: A Study of Its Physiological Causes and Clinical Significance. Charles L. Dana.

22 *The Correction of Deformity at the Hip, the Result of Disease; a Study of the Best Methods and Best Positions. Virgil P. Gibney.

23 *Retrodisplacements of the Uterus and Their Treatment. J. M. Baldy.

24 *Edema of the Glottis. J. C. Gittings, with notes by John H. Jopson.

25 Gastroptosis. Joseph N. Le Conte.

26 *The Fever of Dentition. Eugene R. Corson.

27 An Experience with the X-Ray in Kraurosis Vulvæ. G. H. Stover.

20. **Extensive Operation on the Neck.**—The title of McPhatter's article explains its contents, but he reports the case in detail together with the discussion of the anatomic conditions, and gives illustrations. The results were waited for with some anxiety on account of the extensive interference with the cerebral circulation, but, contrary to the fears, there were no bad effects whatever. The pulse, temperature and respiration were practically normal, and the wound healed by first intention. In a few days the patient was out of bed, and in two weeks was able to return home. She has since been in good health. The illustrations show the success of the operation.

21. **The Irritability of the Facial Muscles.**—Dana reviews the normal and pathologic facial reactions to irritants, and finds that the face has normally only one true reflex, the supraorbital described by McCarthy and confirmed by Sailer. There is another apparent reflex that is really only a part of this, and there is still another one found occasionally in children, namely, the nasomental. This latter has also been found in abnormal conditions, as Graves' disease, melancholia, paresis, cerebrospinal lues, progressive muscular atrophy, and paralysis agitans. There are a number of other abnormal reflexes that are enumerated, but he sums up what he has sought to show as follows:

1. A list of normal facial responses.
2. A list of responses found in pathological conditions.
3. A demonstration that most of these responses are direct or indirect muscular reactions, not myotatic, and not reflex.
4. That the only normal reflexes of the face are the supraorbital and frontoorbital.
5. The description of a new reflex rarely found in normal faces, the nasomental.
6. The occasional presence of a frontal skin reflex.
7. Some clinical observations as to the significance of the abnormal responses.

22. **The Correction of Hip-Joint Deformity.**—In cases of deformity of the hip following diseases, the forcible methods of restoration that have been advocated are discussed by Gibney, and he reports a case where bad results followed. When sinuses lead to the joint, no matter of how long standing, it is unsafe to use forcible correction. He rather favors the use of subcutaneous methods, though they have been condemned by many surgeons.

23. **Retrodisplacements of the Uterus.**—Baldy discusses the subject of retrouterine displacements, which, he holds, are secondary as a rule to other conditions, ovarian trouble, adhesions, etc. He thinks that in a little while many of the operations now in vogue, such as Alexander's operation, hysterorrhaphy and ventrosuspension, will be obsolete and intra-abdominal operations on the round ligaments will take their place.

24. **Edema of the Glottis.**—Gittings and Jopson report a case and discuss the literature. They give the following conclusions as a résumé of the data discussed, with a pretty full bibliography:

1. Simple edema of the larynx usually occurs in cachectic diseases, especially of the heart and kidneys. In these there may be no apparent exciting cause, and the inflammatory symptoms are conspicuous by their absence.

2. Inflammatory edema of the larynx results from contiguity to other inflamed structures; as a local complication of the acute infections of erysipelas, variola, measles, scarlatina, influenza, etc.; or as a result of severe grades of inflammation in simple acute laryngitis. Bacteriological investigation will probably find that a streptococcus is the most frequent exciting cause.

3. Traumatism to the laryngeal structures may result in edema, depending on the degree of "insult" to the tissues or to a possible predisposition.

4. Among rare causes of edema of the larynx are angioneurotic disorders and the blood dyscrasiæ, such as scurvy, purpura, etc.

5. The diagnosis rests on the evidence of palpation and, if possible, visual examination, as well as on the signs of laryngeal obstruction. Membranous laryngitis can not always be at once excluded.

6. Prognosis is unfavorable in all cases occurring in the course of chronic cachectic diseases and in severe types of the acute infectious diseases. In no case can it be other than guardedly favorable.

7. Treatment by intubation rarely affords relief unless the obstruction is infraglottic. Tracheotomy is absolutely demanded in extreme cases. The continuous inhalation of medicated steam is always to be employed; scarification and external depletion by leeches may be tried; cold and heat should be used externally and internally—cold as a prophylactic and heat as a stimulant and absorbent. General stimulating and supportive measures are necessary in all cases.

With the occurrence of edema of the larynx the time of election for the use of antistreptococcic serum has probably passed. As the infection is usually a mixed one, serum therapy does not

at the present time offer much prospect of relief, and its use must be empirical unless there is opportunity for bacteriological diagnosis from cover-glass preparations.

26. **Dentition.**—Corson criticises the recourse to the gum-lancet, holding that we should look elsewhere for the fever of dentition than in the mouth, and that it will be found, as a rule, in the digestive tract. Interference with the gums is, therefore, of secondary importance, if not absolutely harmful. A little use of calomel and castor oil is more often all that is required.

St. Louis Medical Review.

July 25.

28 *Pathologic Findings in a Case of Grip Peritonitis. Carl Fisch.

28. **Grip Peritonitis.**—Fisch reports the findings at the autopsy of a woman, aged 35, who died after an acute attack of grip, toward the close of which symptoms of peritonitis appeared. The conditions found were those of an acute purulent peritonitis, without any apparent point of origin, with an otherwise absolutely normal condition of the body, except a bronchitis, and the presence of a pure growth of Pfeiffer's bacilli in the inflammatory products and in the bronchi.

Cincinnati Lancet-Clinic.

July 25.

29 *Nitrous Oxid with Oxygen as an Anesthetic in Throat Work. II. Nitrous Oxid as a Preliminary to Ether Anesthetics. Samuel Iglauer.
30 Polypharmacy.—The Evil of the Day. Charles P. King.
31 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

29. **Nitrous Oxid.**—The following conclusions are deduced by Iglauer from his studies and observations as regards the use of nitrous oxid in nose and throat work:

1. Nitrous oxid with oxygen (or air) is by far the safest and most agreeable of all anesthetics.
2. The anesthesia is sufficient for a majority of cases.
3. When necessary the anesthetic can be repeated, either immediately or after an interval of several days.
4. For prolonged operations in the throat the nitrous oxid ether sequence is indicated (Bennet and Casselberry).

He thinks the drug has a much wider field of usefulness than to be used merely in dental practice. He also notices the combined use of nitrous oxid and ether, and its advantages in rapid anesthesia, and comparative safety and convenience.

Annals of Surgery, Philadelphia.

July.

32 *Surgery of the Pancreas. Prof. von Mikulicz-Radecki.
33 *A Review of 303 Operations on the Stomach and First Portion of the Duodenum. William J. Mayo.
34 *An Improved Filigree for the Repair of Large Defects in the Abdominal Wall. Willard Bartlett.
35 *Three Successful Laparotomies for Intestinal Perforation in Typhoid Fever. Richard H. Harte.
36 *The Surgical Features of Perforation of the Intestine in Typhoid Fever in Children. Charles A. Elsberg.
37 *Dislocation of the Carpal Scaphoid. Leonard W. Ely.

32.—See abstract in THE JOURNAL, xl, p. 1524.

33.—Ibid., p. 1600.

34. **An Improved Filigree for Large Defects in the Abdominal Wall.**—Bartlett has devised a special form of wire filigree for strengthening extensive defects in the abdominal wall. He has observed that scars spread laterally, but not longitudinally to any great extent, and it seemed to him illogical to strengthen the scar with a great number of needless wires parallel to the axis of the incision, which could only stiffen the abdominal wall and prevent perfect mobility. His filigree, therefore, consists of a series of transverse extensions along a central axis or a row of long, narrow loops, extending each side. Experience teaches, he says, that it makes no difference whether the muscles and fascia be or be not completely drawn together as long as a suitable wire filigree extending sufficiently far out between healthy layers is promptly implanted and healed in. He gives the history of this method of using wire to strengthen the abdominal wall, and remarks that he has been able to observe his seven cases after operation for periods varying from two years down to eleven days, and has in no case had to remove the filigree or seen any disturbance that might be taken to indicate that such a contrivance might not rest indefinitely in its new bed. The logic of the operation is simple. No dependence is placed on preformed tissues. Faith is pinned on the new scar, which is prevented from stretching in extension by unyielding silver wires distributed through it in the proper directions. Of all the various forms of nettings that have been used, the simple one of flattened wire loops appeared to him as being the only one free from the evident disadvantages inherent to any sort of plate, as that is what a stiff filigree really is—one made up of wires which are of equal distance apart and running in both directions.

35. **Intestinal Perforation.**—The three successful cases out of the 13 operated on are reported by Harte. In one, perforation occurred during the middle of the disease, with the patient in good condition. It was immediately recognized and operation advised, but the patient's family's consent was not obtained immediately, necessitating a delay. The second was of the ambulatory character, coming on suddenly in a patient not much exhausted and presenting many of the characteristics of appendicitis with perforation. These are the most favorable cases for operation. The third case occurred when the vital energies were exhausted as the result of prolonged and exhausting disease, and shows that success can be obtained in some instances even then. The keynote in dealing with typhoid perforation is early recognition of the lesion, and to make an accurate diagnosis in the early stage, the medical assistant must be thoroughly conversant with the condition of the abdomen and be alert for the first symptom of muscular rigidity. Cases with hemorrhage are most perplexing, for they occur together. He thinks the ideal method would be for the surgeon to see all cases of typhoid fever day by day with the physician. Other signs are later in appearance and of less value. Shock is an important sign, but it takes time, and no time should be wasted. Immediate operation should be urged even in the presence of profound shock. He advises incision on the right side, starting with the cecum and appendix, examining the last three or four feet of the ileum, and as much of the colon as can be exposed. If no sign of peritoneal involvement is found, a mistake has been made in the diagnosis, and further operation should be discontinued. If signs of peritonitis are apparent and the cause not detected, a median incision should be made so that the entire length of the colon and the remaining small bowel can be carefully examined. Perforation can be easily hidden by lymph, therefore all portions of the bowel that are indurated or covered with lymph should be carefully examined. In 95 per cent. of cases a lateral incision will be most satisfactory. Of the 330 cases which he has analyzed, in 96 a median incision was made with a mortality of 78.12 per cent.; with the right lateral incision there were 123 cases, with a mortality of 68.37. In the other cases the site of the incision was not mentioned. The perforation should be closed with a silk suture in the direction that makes the least narrowing of the gut. No time should be wasted on attempts to cut or freshen the edge. The best stitch is the so-called mattress suture, as the running Lembert is likely to cut or tear out. Frequently the openings are multiple, and a careful examination should be made. Occasionally an opening may be too large for sewing up, and there are four procedures offered: 1. A plug of omentum may be fashioned and stitched against the perforation to form a patch; 2, resection of the bowel and an end-to-end anastomosis; 3, formation of an artificial anus, and 4, cutting off the damaged area or bowel from the general peritoneal cavity by carefully placing pieces of gauze between the folds of the bowel. Cleansing of the peritoneum and drainage are the most important procedures. The best results follow thorough flushings with salt solution, then with equal parts of salt solution and hydrogen peroxid, and finally with normal salt solution. This is best done by carrying a large tube down into the pelvis, and with vigorous flushing all foreign matter can be much more easily removed than by dry sponging. After the intestines are carefully replaced, a number of large gauze wicks are carried down to the bottom of the pelvis and the different parts of the abdomen between the coils to secure good free drainage. The abdominal wound should be left open, excepting when it is very large, when a couple of sutures at the upper angle can be introduced. It should have a liberal dressing of gauze over it, which is soon saturated, but should not be removed for three or four days, after which time it can be re-

moved by thoroughly saturating it with salt solution or hydrogen peroxid. The two important factors to be carefully considered in these cases are, he says, the early recognition of the lesion and dealing with it as rapidly as possible, and planning the operation so that not a moment is wasted, using the simplest technic, as every moment of delay will increase the mortality.

36. **Surgical Features of Typhoid in Children.**—See abstract in THE JOURNAL, xl, p. 1392.

37. **Dislocation of the Carpal Scaphoid.**—Ely reports a case of this rare injury, which he thinks may occur without recognition. In his case it was only recognized by the use of an anesthetic, when the muscles were completely relaxed. It may be sometimes responsible for some of the bad effects in so-called Colles' fracture.

Proceedings of the Philadelphia County Medical Society, Philadelphia.

June 30.

38 *Remarks on the Treatment of Paralysis Agitans (Parkinson's Disease). J. Madison Taylor.
39 *The Significance of Urinalysis in Pregnancy; with Special Reference to Eclampsia. Robert N. Willson.
40 A Case of Malignant Ovarian Cyst. Mordecai Price.
41 A Case of Dermoid Cyst. Ibid.

38. **Paralysis Agitans.**—The special feature of treatment recommended by Taylor in paralysis agitans is a series of carefully-directed movements, passive and active, by which contractures are overcome, the joints loosened up and flexibility compelled, and next, education in voluntary movements, almost solely of the extensors in the arms and flexors in the legs, not neglecting other muscles that are used. These must be instituted gradually on account of the sensitiveness of the tissues. As the practice is continued great soreness is manifest, much more than follows freeing of contractures of the cerebral and other forms of paralysis, on account of the breaking up of sclerosed tissues. The physician should himself outline the treatment and watch the progress, the most careful personal observation being needed. The movements are carried out, as all educated masseurs should know, while the patient is lying prone on the back and then on the face. The legs are raised and the knees pressed down to be held in full extension and finally rotated and pulled similarly to the treatment for sciatica. Much attention should be given the hands and feet. Weir Mitchell observed long ago that forced extension of the fingers and toes would overcome tremor for a few moments, though he has never used this fact therapeutically. After the limbs and extremities have been thoroughly treated and moved passively in the normal directions, the patient is seated on a level, preferably the floor, and the operator seizing the head, pushes it forward on the chest by gradual extensions and relaxations, increased day by day until the stiffened back muscles relax sufficiently to thrust the forehead almost to the knees. This causes much pain and subsequent temporary soreness. The trunk is rotated on itself until normal excursus is secured. Movements, passive and active, of the neck and upper torso and shoulders are of the greatest value, as here the scleroses are most manifest. The hardened tissues affect the adjacent and contained blood vessels and affect their caliber, impairing nutrition beyond. It has been Taylor's experience that in treating the neck stiffness of senility, when the structures become once loosened and elastic, the special sense organs, the eye and ear were notably improved, and the throat and voice showed improvement. The blood supply to the brain is increased with resulting mental improvement. He also emphasizes the value of dry cupping of the region of the erector spinæ muscles, thus affecting the spinal vasomotor centers governing the circulation in the cord. This procedure seems to improve the elasticity of the ligaments, etc. He also emphasizes the importance of giving careful attention to the structures about the loins and hips. To sum up, he says:

> The indications in Parkinson's disease are to overcome the growing apathy; to induce systematized return to normal activities; to use all gentle and yet forceful means to secure elasticity to the tissues, and finally to stimulate the circulation in the spinal cord by graduated pressure on the spinal areas through which reflexly many of the fibers in the cord can be restored to function and others improved. Above all, care and patience and persistence must be forthcoming on the part of the physician, and intelligent co-operation demanded in the patient. Whether a cure can ever be attained is only to be learned by increasing experience, but the profound improvement obtained in some exceedingly severe cases warrants the hope, and expectation, if moderate, can be at times exceeded. In so hopeless a condition these rational measures are certainly well worth a fair trial, and in the earlier stages of the disease they promise to secure abundant rewards.

39. **Urinalysis in Pregnancy.**—In answer to the question whether eclampsia can be foreseen and prevented, Willson offers the following as reasonable conclusions:

> 1. Careful urinalyses should be carried out in all cases of pregnancy at frequent intervals and with increased frequency as term is approached. 2. The most dependable indications of impaired renal function and of probable eclampsia, have been shown by general experience to be the presence of decided quantities of serum albumin, the diminution of the eliminated urea and the presence of a microscopic renal sediment (casts, renal epithelium, blood, etc.). The character of the latter, when accompanied by the well-known clinical signs of nephritis, always constitutes a working basis for an estimate of the probability of imminent danger. 3. Even if the urine appear perfectly normal the possibility of eclampsia must be considered, especially in young women. Eclampsia in such cases is of equal severity with that of cases in which the urine has given due warning of impaired renal functions. 4. When eclampsia supervenes on labor in a subject with previously (apparently) healthy kidneys, the tendency subsequently is toward a return to normal renal functions if the patient survives. This circumstance would seem to indicate still more strongly that the kidneys may actually have been normal up to the time of a temporary embarrassment and suspension of function. 5. Although we fail to find in urinalysis an unerring indication of the behavior of the case, it is a safeguard we can ill afford to neglect. Until the nature and pathogenesis of uremia and eclampsia are more thoroughly understood it would appear to be our best guide to safe treatment and accurate prognosis. 6. The prognosis seems to be vastly improved if eclampsia be combated by generous bleeding, followed by venous transfusion with normal salt solution. These measures reduce and dilute the poison in the circulation and relieve the cardiac distress. Free diaphoresis and purging are, of course, indicated.

New York State Journal of Medicine, New York.

July.

42 *Some Reflections Relative to the Time and Method of Operating for Appendicitis. E. D. Ferguson.
43 The Family Physician. Chauncey P. Biggs.
44 *Morphology of Anopheles Mosquito—Habits—Modes of Destruction. Wm. N. Berkeley.
45 *The Concurrence of the Anopheles Mosquito and Malaria. Henry C. Weeks.
46 *Laboratory Diagnosis and Life Cycle of the Parasite of Malaria. Wm. T. Klein.
47 Results in Fifty Cases of Cancer Treated with the Aid of the Roentgen Rays. Charles W. Allen.
48 The Roentgen Ray; Its Mechanics; Physics, Physiology, and Pathology. Eden V. Delphey.
49 The Roentgen Ray in Gynecology. Eden V. Delphey.
50 *A Study of the Indications for Nephropexy. Augustin H. Goelet.
51 *Septicemia and Death Following X-Ray Burns. Howard B. Besemer.

42. **Appendicitis.**—Ferguson would operate in all cases on patients who will submit within a few hours of the attack, but after that somewhat vague period has elapsed and the disease becomes localized, he would wait for the subsidence of symptoms and the formation of an abscess, treating the patient medicinally so as to avoid any spreading of septic matter into the abdominal cavity or interfering with the protective adhesion of the contiguous peritoneal surfaces. All the cases, however, should ultimately be subjected to operation.

44.—See abstract in THE JOURNAL of July 11, p. 125.

45.—Ibid.

46.—Ibid.

50.—Ibid., xxxix, p. 1204.

51. **Fatal X-Ray Burns.**—Besemer reports in detail a case of fatal septicemia following an *x*-ray burn. He says he finds three hypotheses for its cause: 1. Sepsis due to septic infection of the wound at operation, followed by absorption. He hopes this was not the case. 2. Did the chlorin sterilization practiced destroy enough epidermis or rather put enough tissues into condition of good culture medium for streptococci to multiply beyond all reason and overwhelm the system, or 3, was it the severe *x*-ray burning that furnished the culture medium? He has never seen chlorin do this before. If it was the cause, he was not able to show how the condition occurred. Inasmuch as the diagnosis of sepsis was only established at postmortem he is unable to guess when it began.

Oklahoma Medical News-Journal, Oklahoma City.

July.

52 The Mechanical Treatment of Hernia. J. R. Phelan.
53 *A Study of a Case of Dual Personality. S. Grover Burnett.

54 Impaired Digestion of Infants—Particularly Bottle-fed Babies. F. H. Monroe.

53. Double Personality.—The case reported by Burnett is an interesting one, evidently epileptic in its character. A peculiar feature of the case is that the subject was aware of his defect and managed to conduct business by taking careful notes in each state to which he could refer in the condition of amnesia that followed. He learned to think as two men, one taking up matters where the other left off, as recorded in his book. The case also has important medicolegal bearings, as he was decidedly dangerous in some conditions.

Pediatrics, New York.

July.

55 *Fresh Air in the Treatment of Children's Diseases. Robert W. Hastings.
56 *Four Deciduous Teeth Extracted by an Injury, Replaced and Retained in a Healthy Condition. Samuel E. Earp.
57 Mongolian Imbecility. C. R. Spicer.
58 *Marasmus. Philip F. Barbour.
59 Pott's Disease of the Spine in Children. Its Complications. James H. Tebbetts.
60 Foreign Bodies in the Intestines. L. T. Royster.

55. Fresh Air in Children's Diseases.—Hastings remarks on the necessity of fresh air, the difficulty of obtaining it, and the methods adopted in the Boston Floating Hospital.

56. Teeth Replacement.—Earp reports a case where four lower incisors were knocked out by an accident, with laceration of the gums and only slight attachment of tissue on the anterior surface. The injured parts and the mouth were treated with an antiseptic solution mainly of boric acid, the teeth replaced, and after firm pressure for five minutes were kept in place by a pledget of cotton saturated with the same solution. Sedatives were given to produce quiet and a liquid diet instituted. After a few weeks the teeth were firm and later became uniform and normal and healthy. He thinks nature will show a tendency to assist when there is ample vitality as in childhood, and that the preservation of the teeth in this instance prevented depression, which, during the four to six succeeding years—the child being only sixteen months old—would have changed the expression of the features. The cutting edges not being in apposition would have made mastication imperfect and impaired digestion. The successful re-establishment probably prevented a destruction of the germs of the permanent teeth and avoided deformity and malposition.

58. Marasmus.—This condition is much more common among the dispensary class than in private practice. It may occur in well-to-do children that have undergone severe and prolonged illness. The pathology is not uniform. The cause is often very obscure, and though there is no difficulty in recognizing the atrophied child it seems to be due to vice of absorption, as Rotch says. Barbour, acting on this theory, has been trying copper arsenite in the treatment, in small doses, the more insoluble salt of arsenic being employed for the local stimulating action on the cells and mucous membrane of the stomach. Its effects, however, are not confined to the gastric membrane. It is carried into the bowel and that which is absorbed is carried to the liver, where it is again eliminated in the bile. This circular process seems to be stimulating to the atrophied intestinal mucosa, renewing its activity and bettering the absorption and assimilation. He has administered it three times a day after feeding in 3/100 of a grain doses dissolved in water acidulated with hydrochloric acid. While his experience has not been large with this method, it seems to indicate its use. He thinks the administration of cod-liver oil would probably be contraindicated. He has more good from its use externally than internally. The prognosis, he thinks, should be guarded in any case; the chances of tuberculosis are to be considered.

Bulletin of the Johns Hopkins Hospital, Baltimore.

July.

61 On Obliteration of the Superior Vena Cava. William Osler.
62 *A New Method of Hemo-alkalimetry and a New Hemo-alkalimeter. Arthur Dare.
63 John Collins Warren. J. G. Mumford.
64 *The Etiology of Serofibrinous Pleurisy with Reference to Cytological Diagnosis. C. H. Bunting.
65 A Case of Peptic Ulcer in the Jejunum of a Dog Following Gastroenterostomy, with a Review of the Cases Reported in Man. S. H. Watts.
66 The Advantages of the Sims Posture in Cystoscopic Examinations. John A. Sampson.

62. Hemo-Alkalimetry.—The new instrument and method here described are dependent on spectroscopic examination of the blood and fading away of the absorption point of oxyhemoglobin with neutralization. The details are too elaborate for abstracting. Dare tabulates 75 cases of blood examinations, and the tables, he says, seem sufficiently interesting to merit a close study of the relation of alkalinity to physiologic and pathologic alterations of the blood. In enteric fever a marked decrease of alkalinity was the rule. In 23 cases where this diagnosis was made, the alkalinity was normal or below normal in 20. A decrease in alkalinity is also observed in tubercular disease with glandular involvement, while in tubercular meningitis or peritonitis the alkalinity shows an increase or falls late in the course of the affections. In gastric ulcer there is a fall in the alkalinity below the color index, while cancer shows an alkalinity above this. In malignant conditions generally the alkalinity was found to be normal or somewhat increased. The anemias showed a decided fall in alkalinity, while in chlorotic subjects the alkalinity followed closely the normal color index. In the latter disease attempts were made to increase the alkalinity by giving excessive amounts of sodium bicarbonate, but while the erythrocytes increased and the urine became alkaline, the hemoglobin failed to respond. In splenomedullary leukemia, the alkalinity suffers a marked decrease, while in splenic anemia and cholemia it shows an apparent rise. Catarrhal jaundice and amyloid liver both raise the alkalinity of the blood, and cholelithiasis showed an evident decrease. Croupous pneumonia, phthisis, influenza, rheumatic fever, rubeola, appendicitis, even in the presence of a frank leucocytosis, showed an increased alkalinity, while in malaria the results seemed contradictory. In chronic malaria it was subnormal, while in recent tertian malaria it was increased. The relation that the alkalinity bears to the excretion of urea needs investigation. These studies, imperfect as they are, he says, tend to show that in those diseases which present a marked decrease in the alkalinity, they at the same time show a marked increase in the quantity of urea eliminated as the amount of nitrogenous food is diminished.

64. Pleurisy.—Bunting has followed Widal and Ravaut's suggestion as regards the cytologic determination of the tuberculous nature of pleurisy. He studied a number of pleural exudates, particularly those from idiopathic pleurisy at the Johns Hopkins Hospital. He finds a decided fall in the number of polymorphonuclears in the second week, the exudate being almost entirely mononuclear, agreeing in this with Widal and Ravaut as regards idiopathic pleurisies and their tubercular character. He does not pretend to claim that all idiopathic pleurisies are tubercular, but they have an exudate remarkably uniform in cellular content and general characters which may be assumed to indicate a uniformity in the nature and etiology of the process. This uniform cellular formula, as others seem to have shown, is the formula of tuberculous pleurisy.

Medical Bulletin, Philadelphia.

July.

67 Congenital Dislocation of the Hip-joint, Infantile Paralysis of the Lower Extremity, and Tuberculous Hip-joint Disease. James P. Mann.
68 *The Prostatic Electrolyzer in Its Time- and Trouble-saving and Curative Aspects. John V. Shoemaker.
69 *Hope in Medicine. F. Savary Pearce.
70 Improved Diuretics. William R. D. Blackwood.

68. The Prostatic Electrolyzer.—Shoemaker describes the method of using this instrument which is simple and has been described elsewhere. He finds with galvanic electricity it is of decided value in cases of enlarged prostate, spermatorrhea, constipation, etc., and reports cases.

69. Hope in Medicine.—Pearce maintains that the encouragement of hope is of main importance in many cases.

Annals of Gynecology and Pediatry, Boston.

July.

71 *A Report of 100 Cases of Diphtheria of the Larynx, Intubated, and Treated with the Diphtheria Antitoxin. Edwin Rosenthal.

72 *Two Cases of Normal Pregnancy Following Operations for Extrauterine Pregnancy. Francis D. Donoghue.
73 *Some Curiosities of Cesarean Section. Ernest B. Young.

71. **Diphtheria.**—Rosenthal has not been able to reduce his mortality record to so low a percentage as to make him a believer in the "possible specific efficacy" of the serum. He suggests or intimates that there may be a decided difference in the quality of the serum, and that it is sometimes less effective in the same quantity as formerly, though he admits the reduction of mortality that has followed its use in the severer types. He now combines the serum with his old treatment. No case is so mild or treatment begun so early as to induce him to depend alone on antitoxin.

72. **Ectopic Pregnancy.**—Donoghue concludes that it would be well to carefully watch the post-operative course of ectopic pregnancy, as an increasing number of reported results show that normal pregnancy is many more times apt to occur than a repetition of an extrauterine. He thinks we would probably be doing right to conserve the pelvic organs, but careful watch should be kept for slight deviations from normal menstruation after operation. If the patient should elect not to be exposed to the danger of repeated extrauterine pregnancy, he asks will we not be obliged to concede that she may demand relief from any child-bearing?

73. **Cesarean Section.**—Young describes a number of curious cases taken from the literature of cesarean section performed in the crudest possible way, even by the patients themselves. Examples are given where goring by a cow was followed by the extraction of a dead or living child and the mother surviving, or both mother and child surviving. A case has been reported where a woman was cut in two by a cannon ball and a living child saved.

Providence Medical Journal.

July.

74 Recent Medical Progress with Special Reference to the Studies of Immunity. Frank T. Fulton.
75 Myopia and Its Relation to School Life. F. T. Rogers.
76 *Treatment of Fracture of the Neck of the Femur. Frank E. Peckham.
77 The Causes and Prognosis of Sudden Blindness. George W. Van Benschoten.

76. **Fracture of the Neck of the Femur.**—Peckham reports two cases of fracture of the neck of the femur, one treated by a bone peg, the fragment being placed in apparently perfect apposition and union restored in each case, though in each case there was a shortening of the leg. He accounts for this by the non-preservation of the proper lines or angle of the head to the shaft of the femur, and shows how this ought to be preserved by placing the wounded limb in an abduction splint. While this idea was original with him, it was also brought out by Dr. Royal Whitman, simply operating on the leg so as to restore the angle which the neck should form with the shaft. This can only be accomplished by markedly abducting the leg, therefore the leg should be placed in a strongly abducted position and fixed in plaster in this angle. He also calls attention to the Ridlon method of using the Thomas hip splint in case of this fracture in the aged.

The Laryngoscope, St. Louis.

July.

78 *The Principles of Rhinologic Practice. Edwin Pynchon.
79 *The Pathology of Ethmoiditis Reconsidered. Edward Woakes.
80 *The Use and Abuse of the Eustachian Bougie. M. A. Goldstein.
81 *The Possibilities and Limitations of the Electrolytic Bougie in the Treatment of Chronic Catarrhal Otitis. Arthur B. Duel.
82 Some Cases of Asthma Treated by Removal of the Middle Turbinate. T. W. Moore.

78. **The Principles of Rhinologic Practice.**—Pynchon offers the following conclusions from his review of the general principles of rhinologic work: "1. In the normal nose the nostrils should be of equal caliber and should jointly have a sufficient capacity to at all times supply the requirements of easy nasal respiration. 2. In the ideal nose the walls of the septum are practically plane, and are at no time or place touched by the tissues of the outer wall in either passage, and, furthermore, no points of contact exist elsewhere therein, so as to interfere with either ventilation or drainage, or prevent the normal evaporation of nasal moisture. 3. While in an ideal nose the septum is vertical and nearly plane, a moderate irregularity thereof will not impair the nasal respiratory functions, providing there are no points of contact or abrupt elevations therein, and the lumen at all points is sufficient. 4. Abnormal redness of the nasal mucous membrane is an unfailing sign of irritation, the cause of which is generally of a structural nature, and, therefore, amenable to surgical treatment. 5. The indications for operative interference depend on both the subjective and objective symptoms. A noticeable inadequacy of either nasal passage, the presence of excessive or retained secretions, or an abnormal redness of the mucous membrane at any point, are all evidences of abnormality, which, if coupled with inconvenience to the patient, invite corrective attention. 6. In the treatment of chronic hypertrophic nasal troubles, the indication is to remove all obstructive, redundant or pathologic tissues, and at all times the chief indication is to cause the defective nose to conform as nearly as practical to the contour and character of the ideal standard."

79. **Ethmoiditis.**—Woakes discusses the pathology of ethmoiditis, which he attributes to progressive fibrosis, and compares it to the conditions that occur in the kidney and possibly in the sclerosis of the nervous system and elsewhere.

80. **The Eustachian Bougie.**—Goldstein describes a method of using the eustachian bougie, which he considers a very valuable therapeutic measure in cases of obstruction or narrowing of the canal. It is often efficient when pneumomassage, catheterization and flation of the tympanic cavity have failed to produce good results. Its effect, he thinks, is mainly mechanical. As regards the electrical bougie he believes the addition of a mild galvanic current with its simple stimulating effect on the mucous membrane, nerves and muscles of the eustachian tube, enhances the value of the bougie, but as to its mechanical and electrolytic effects he expresses doubt. He thinks they may aggravate conditions. With the slightest cauterization or erosion of the surface, further narrowing of the tube of the lumen can not be prevented.

81. **The Electrolytic Bougie.**—Duel is an advocate of the electrolytic bougie. He gives the experience of a large number with whom he has corresponded in regard to it. The cases where he has found it of greatest value have been those in which he has used it only a few times at considerable intervals. Others' experience agrees with him. Even one passage has been sufficient. A small bougie, small current strength, considerable time and a great deal of patience are the best precepts to follow.

The Medical Times and Register, Philadelphia and Boston.

June.

83 Shock Produced by General Anesthesia with Relation to Disturbances of the Blood and Gastrointestinal Tract. Fenton B. Turck.
84 The Treatment of Rheumatism. J. T. Fotheringham.
85 The Modern Therapy of Septic Puerperal and Surgical Infections. Roswell Park.

Virginia Medical Semi-Monthly, Richmond.

July 10.

86 Infection of the Parotid Gland. W. A. Bryan.
87 Round-celled Sarcoma of the Prostate; Removal; Recovery. Granville MacGowan.
88 Puerperal Eclampsia. E. T. W. Hall.
89 A Few Practical Therapeutic Facts. Chas. A. Labenberg.
90 The Use and Abuse of the Nitrites. A. B. Greiner.
91 The Mineral, Animal, Vegetable and Spiritual Kingdoms of Food. Ephraim Cutter.
92 Anesthesia and Anesthetics. Thomas Dowling.
93 Hygiene in Public Schools. J. D. Bennett.

July 24.

94 Some Remarks About Accessory Sinus Disease. Joseph A. White.
95 Injuries of the Eye and Their Complications. E. Oliver Belt.
96 Case of Fracture of Skull. Wade A. Atkinson.
97 The Physician and the Public in Relation to the Common Communicable Diseases. J. C. Irons.
98 Diagnosis of Renal Tuberculosis. John D. Thomas.
99 Arteritis in Typhoid Fever. W. T. Thayer.
100 Medical Expert Evidence. Fred J. Mayer.

American Practitioner and News, Louisville.

July 1.

101 Cheerfulness in the Sick-room. T. Atchinson Frazer.
102 Phlyctenular Keratitis. M. F. Coomes.

103 The Treatment of Drug Addiction. J. H. Kellogg.
104 Exophthalmic Goiter. J. J. Rodman.
105 Cretinism, with Report of Case. Frank M. Beard.

Texas Medical News, Austin.

June.

106 The Visit of Dr. Adolph Lorenz to Texas. Editor.

Ophthalmic Record, Chicago.

July.

107 The Retinal Image. Chas. D. Jones.
108 Sarcoma of the Choroid in a Child. William Evans Bruner.
109 Double Hand Skiascope. J. E. Jennings.
110 A Prism Sequence for Measuring Heterophoria. Walter L. Pyle.
111 Slight Modifications of the Van Milligan and of the Hotz-Anagnostakis Operations for Entropium. Harold Gifford.
112 A Case of Syphilitic Orbital Periostitis and Optic Neuritis in which Vision was Almost Extinguished, but Completely Restored. F. C. Hotz.
113 Tuberculosis of the Iris, with Presentation of Microscopic Specimens. Wm. H. Wilder.
114 Operative Treatment of Posterior Synechia. J. F. Fulton.

Medical Sentinel, Portland, Oregon.

July.

115 The Human Face in Health and Disease. H. S. Rowe.
116 Treatment of Chorea. Henry Waldo Coe.
116¼ Morphin and Ptomaine Poisoning. I. C. Twitchell.
116½ The Etiology of Pneumonia. E. A. Pierce.

Physician and Surgeon, Detroit and Ann Arbor.

April.

117 A Daily Study of Foods Producing or Not Producing Casts, Fatty Epithelia and Albumin in Urine. Ephraim Cutter.
118 Adenoids. Calvin R. Elwood.
119 History of the Washtenaw County (Ann Arbor) Medical Society. William F. Breakey.
120 The Relation the Physician Sustains to the Law. Rollin H. Person.
121 A Case of Cholesteatoma of the Middle Ear, with Radical Operation. Emil Amberg.

International Medical Magazine, New York.

July.

122 On the Development of the Faculty of Speech. G. Hudson Makuen.
123 The Relation of Manual Therapy to the Vasomotor Mechanism. John P. Arnold.

Medical Mirror, St. Louis.

July.

124 Infusion. J. W. Wainwright.
125 Claude Nicolas Le Cat, a French Surgeon. Frank Webster Jay.
126 The Treatment of the Stump in Appendectomy. Edward Wallace Lee.

New England Medical Monthly, Danbury, Conn.

July.

127 Erysipelas and Erysipeloid Conditions; Their Causes and Their Treatment. Thomas H. Bixby.
128 Serious Penetrating Wounds of the Eye and Sympathetic Ophthalmia. Edward Swasey.
129 In the Progress of Preventive Medicine. Franklin Staples.
130 Further Investigations Concerning Streptococci. Hans Aronson.

Medical Dial, Minneapolis.

July 1.

131 Steps Upward in Modern Surgery. Franklin Staples.
132 Influenza. T. J. Catlin.
133 Practical Experiments in the Treatment of Anemic Conditions. Fritz Euler-Rolle.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

July 18.

1 *An Address on Erythemata as Indicators of Disease. James Galloway.
2 *Impressions of the Efficiency of Professor Dunbar's Antitoxin in Hay Fever. Sir Felix Semon.
3 *On the Desirability of Operating for, and the Mortality from, Chronic Pancreatitis. H. Hale White.
4 *The Problems of Cancer. E. F. Bashford.
5 *An Experimental Examination of Mesenteric Glands, Tonsils and Adenoids, with Reference to the Presence of Virulent Tubercle Bacilli. Allen MacFadyen and Alfred MacConkey.
6 Note on Antihemolytic (Hemosozic) Serum. Armand Ruffer and Milton Crendiropoulo.
7 A Case of Acromegaly. Simeon Snell.
8 A Note on the Treatment of Chorea by Ergot of Rye. Eustace Smith.

1. Erythemata as Indicators of Disease.—Galloway divides these affections into a group of simple erythemata, the result of hyperemia, transient in character, as a rule, and producing no permanent changes, and one of the exudative erythemata, resulting from hyperemia, transudation and exudation as well as actual inflammation, causing changes that may be of some duration, or even permanent. The simple erythemata are results of action of the nerve centers, the dilatation of the skin arterioles, and in certain cases they may be of serious import as indicating constitutional conditions. It is very common to find that persons liable to these suffer from lack of resistance to infections, and irregular circulation. He reports a case showing that such a condition may develop into nodular and necrosing lesions in certain cases and be of the most serious prognostic significance. These conditions may also develop into the exudative erythemata, of which latter type he refers to certain parasitic disorders, as the erythemas of malaria due to the presence of hemameba in the blood, and trypanosomiasis. Probably the most common causes of exudative erythemata, which give rise to exudative lesions of the type of erythema multiforme, are the toxins produced in the digestive tract as a result of improper food, etc. A few cases have been recorded of erythema multiforme in connection with renal disease. In conclusion he remarks in regard to lupus erythematosus. He considers it a toxemia arising from various sources, and not essentially a tubercular affection.

2. Hay Fever Antitoxin.—Semon has utilized Dunbar's hay fever antitoxin in eight cases, several of which he here reports. His impressions from these are that it is a palliative rather than a directly curative measure. It is not to be expected that any single application will permanently ward off the disease, but it has given relief to some and has acted beneficially in postponing the attack in others. According to the spontaneous statement of at least two of his patients, it has rendered the actual hay fever attack much more tolerable than on former occasions. The main applicability of the serum lies in the direction of its postponing the occurrence of the regular attack. If further experience will show that prolonged and frequent application does not produce tolerance diminishing its efficiency or unpleasant by-effects, it will have added much to our therapeutics resources in this disease. After more extensive experience he may have to further modify his opinions.

3. The Desirability of Operating Generally in Chronic Pancreatitis is questioned by White, who reports a case showing that operation may not be necessary. He also questions the general fatality of the disorder, analyzing the statistics of Guy's Hospital in evidence of this. He thinks it is very rarely a fatal disease, probably not being responsible for more than one or two out of nineteen thousand deaths, and certainly not responsible for more than four.

4. Cancer.—The importance and value of the study of cancer in the lower animals, Bashford thinks, would enable us to orientate ourselves to an extent in the investigation, not possible by any other means. He thinks that the present pessimistic views of the hopelessness of investigating cancer are not justified in the face of what still remains to be done.

5. Glandular Tubercles.—MacFadyen and MacConkey have studied the postmortems of children to ascertain the presence of tubercle bacilli in the mesenteric glands. Only a few of the twenty-eight cases examined—eight altogether— were diagnosed as tuberculous. The remaining twenty were considered non-tuberculous; the examination, however, showed virulent tubercle bacilli, indicating, therefore, that this is much more frequent than ordinary examinations would lead one to suppose. One point of interest was the finding of tubercle bacilli in the mesenteric glands of a still-born child. They were also able to obtain material from the examination of 44 cases of adenoids and 34 cases of tonsils. The results, however, were entirely negative. They conclude that the tubercle bacilli are not usually found in these organs.

The Lancet, London.

July 18.

9 Diseases of the Ascending Aorta. (The Cavendish Lecture.) T. Clifford Allbutt.
10 *Gastric Ulcer and Its Surgery. Albert Carless.
11 A Case of Intestinal Obstruction Presenting Unusual Features. Gilbert James Arnold.
12 Observations on Mastication. Harry Campbell.
13 *The Selection of Cases Suitable for the Nauheim Treatment of Chronic Affections of the Heart. Leslie C. Thorne.

14 The Chloroform Habit Acquired by a Hysterical Woman Resulting in Death. E. Percy Court.
15 *The Incidence and Mortality of Croupous Pneumonia in Infancy. Clive Riviere.
16 A Case of Chloroma, with Clinical History and Account of Postmortem Appearances. Edgar Trevithick.
17 Note on a Case of Spurious Hydrophobia (Lyssophobia). W. S. Harrison.

10. Gastric Ulcer and Its Surgery.—Our knowledge of the etiology of gastric ulcer is still defective. Carless reviews the conditions in which the surgeon is most likely to be interested, those especially warranting surgical interference. One of these is recurrence or persistence without obvious complications as sufficient warrant for surgical interference, because it means chronic invalidism and may develop malignant disease; hemorrhage may also require operative treatment, especially when persistent or recurrent or threatening life. Perforation is one of the most formidable complications, and while the statistics vary, certainly is the cause of death in a considerable proportion of cases, 28 per cent. according to Fenwick and also Browicz, though Leube found it only 2 per cent., and the Massachusetts Hospital statistics give it only a little more, 3.2 per cent. The actual perforation is due to traumatism in many cases, though the injury may be very slight. Carless goes into details as to the operative treatment. A fourth complication demanding surgical treatment is one to which the stomach, like every part of the digestive tract, is liable and may occur whenever a chronic ulcerative lesion exists, viz.: localized abscess and, by extension of the infection, even a basal empyema may be produced. Finally complications necessitating surgical treatment arise as a result of the contraction which is always associated with the cicatrization of ulcers. Here the most marked trouble arises from the narrowing of the pylorus, but it may occur elsewhere and cause serious modifications of the shape of the stomach, such as the hour-glass stomach, etc. Sometimes the stomach may be divided into two equal pouches, and it may be possible to unite them by means of a Murphy button or a total excision of the stricture may be feasible. If gastroenterostomy is resorted to, it will have to be double to drain the two parts. When pyloric obstruction exists, the treatment may be either by pyloroplasty, pylorectomy or gastroenterostomy. Pyloroplasty is a simple procedure and should be successful. Immediate results are often excellent. The death rate, however, is about 10 per cent., and it can only be undertaken in the absence of adhesions. It is difficult also to open out and to suture up a very thick and indurated pylorus, and if the stomach is much dilated, and sags down, the contents are likely to stagnate in the pouch and no improvement follow. Where motor power is diminished it is of no use; and it must not be forgotten that duodenal ulcers may co-exist and produce stricture further down. Pylorectomy is sometimes useful, as is also gastroplication, but where all these procedures are contraindicated, gastroenterostomy must be relied on, and the results will probably be beneficial.

13. Nauheim Treatment.—The cases cured or greatly benefited by the Nauheim treatment, are, according to Thorne, those of dilated, enfeebled, irritable heart, a sequel of influenza, also cases of cardiac enfeeblement from excessive smoking and prolonged illnesses, such as typhoid, etc. Those that can be greatly benefited but not cured, include cases of rheumatic and of gouty origin where the valves have been permanently injured and there are signs of commencing cardiac failure. Among doubtful cases should be classed a large number of the more advanced forms of valvular affections in which the recuperative powers have been undermined by climatic effects, intemperance, or illness, and the patient is losing ground. The treatment may be tried in some of these cases when others have proved ineffectual, but it should be applied by one who is thoroughly conversant with it, and who can watch the smallest details, as a very slight variation in the bath temperature or the duration of the bath may have the most serious effects. The unsuitable cases are, according to Thorne, those who have been and are heavy drinkers, those who suffer from syphilitic heart affections, those with marked degeneration of the vessel walls, and those exhibiting symptoms of aortic regurgitation, and also very old people. In conclusion he says that a fortnight's or three weeks' change of air after the baths materially increases the benefit obtained, but the selection of place depends on the individual and his personal idiosyncrasies. Cases are reported.

15. Croupous Pneumonia in Infancy.—After the study of the statistics of the East London Hospital, and his personal observations, Riviere sums up the results as follows:

1. Croupous pneumonia occurs in infants below the age of two years as frequently as, and probably more frequently than, in older children.
2. In infants a diagnosis between croupous pneumonia and bronchopneumonia is often impossible, many cases of bronchopneumonia with lobar consolidation appearing in the postmortem room with a diagnosis of croupous pneumonia.
3. On account of this difficulty statistics based on diagnosis alone are quite untrustworthy.
4. This error can be largely eliminated after the manner described above. [An analysis of statistics giving about 25 per cent. of all cases under 2 years and nearly all above that age as croupous pneumonia.—ED.]
5. The mortality in croupous pneumonia is largest in the first year of life (25 per cent.), is considerable below the age of two years (15.4 per cent.), but for children above this age is comparatively small (2.3 per cent.).

Bulletin de l'Academie de Medecine, Paris.

Last indexed page 64.

18 (Year LXVII, No. 21.) *Prophylaxis du paludisme par la quinine. J. Michon.
19 (No. 23.) De l'actinomycose humaine en France et à l'étranger 1897-1902. A. Poncet and L. Thevenot.
20 (No. 24.) Rupture of Spleen from Horse's Kick. Recovery After Splenectomy the Eighth Hour. A. Le Dentu.—Rupture de la rate, etc.
21 *Etude sur l'association de l'appendicite et de la cholecystite avec ou sans péritonite. G. Dieulafoy.
22 (No. 25.) X-Ray Treatment of Tumors. R. Vigouroux.—Traitement des tumeurs du sein par les rayons X. (See also No. 23.)
23 Le système quarantenaire dans la mediterranée. J. Teissier et al. (Commenced in No. 21.)
24 (No. 26.) Paralysies traumatiques des muscles de l'oeil d'origine orbitaire. De Lapersonne.
25 *Sur le mode de préparation des solutions chloruro-sodiques gélatinées injectables. Report of committee.
26 Note sur un trypanosome du dromedaire au Soudan français. Cazalbou.
27 *La médication hypotensive. (Présclérose et cardiopathies artérielles.) H. Huchard.

18. Quinin in Prophylaxis of Malaria.—Michon's practice, with which he has been very successful in Corsica, is to administer quinin hydrochlorate in the dose of 70 to 80 centigrams of quinin hydrochlorate every third day. Laveran in discussing his communication mentioned that the Italian tests of protection against mosquitoes with wire screening have resulted in reducing the proportion of persons affected with malaria from 40, 60, or 96 per cent. in the controls, to 1.9 per cent. of primary infection in 4,363 persons completely protected; 3.3 per cent. in 5,165 more or less protected, and to 10.9 per cent. in 802 persons only partially protected. Michon prefers quinin prophylaxis to "putting people in cages."

21. Association of Appendicitis and Cholecystitis.—Dieulafoy confirms by 2 cases personally observed Becker's recent statistics of 30 in which appendicitis coincided with a suppurative cholecystitis with or without peritonitis. He is convinced that the appendix is secondarily involved and its inflammation due to descending infection and therefore insists upon the importance of inquiring for gallstone antecedents and examining the gall bladder in every operation on the appendix. He cites in detail as an extreme case the one published by Grant in THE JOURNAL of April 18.

25. Gelatin Solutions for Subcutaneous Injection.—The committee charged with the task of reporting on the measures to be adopted to prevent accidents from this source, personally prefer that the solutions should be officially standardized, but as this is not practicable under the present regulations, they recommend that the solution should be 1 to 2 per cent. of gelatin in a 7 per cent. solution of sodium chlorid. It should be sterilized in quantities not over 150 c.c. in the autoclave with steam at a pressure of 115 degrees and for thirty minutes. They affirm that these precautions, strictly observed, will render tetanigenic infection impossible.

27. Treatment of Arterial Hypertension.—Huchard reiterates that the study of the arterial tension is the key to the pathology of many affections. The clinic has demonstrated that the peripheral heart sometimes takes the lead in morbid processes which commence in the arteries and finally involve

the left heart, with ischemia in the organs entailing numerous toxic accidents due to the early insufficiency of the liver and kidney. Arteriosclerosis, he states, is preceded for weeks to years by vascular hypertension due to various causes; the "maladie de fonction" precedes the "maladie de l'organe." It may be diagnosed by the sphygmomanometer, the stability of the pulse and its inverse type, and the diastolic reverberation of the aorta at the base of the heart and to the right of the sternum. When this latter reverberation is "clangorous" it indicates chronic aortitis and dilatation of the aorta, but when it is near the pulmonary artery, to the left of the sternum, it signifies hypertension in the lesser circulation. By "stability of the pulse" he means the lack of the usual difference between the pulse when the subject changes from the reclining to the erect position, or that the pulse is slower when standing. This inverse pulse is a sign of arterial hypertension. In treatment of this stage of presclerosis, the diet is of great importance, as the abuse of meat tends to pour into the blood more and more vaso-constricting poisons. Hearty eaters are more inclined to arteriosclerosis, he thinks, than hard drinkers. Meats should be abandoned for vegetables and milk, and diuresis promoted, the peripheral circulation favored by massage and muscular exercises, and by thermal baths. He warns against carbonated baths as directly enhancing the arterial hypertension, and relates 3 cases in which patients of this category had found their condition aggravated by a course of carbonated baths at Nauheim and returned to Paris to die. Presclerosis and all arterial cardiopathies characterized by hypertension of the blood formally contraindicate carbonated baths. A sharp distinction should be made between the "valvular hypotensive cardiopathies," he remarks, and the "arterial hypertensive," even when the latter exhibit a souffle at the orifice which is liable to cause them to be mistaken for the former. Blondel's new lacto-serum promises to be a valuable aid in combating arterial hypertension. [Robin has noticed that with the tonometer it was possible to determine a marked drop in the capillary tension after subcutaneous injection of even 1 to 5 c.c. of the lacto-serum. This is a serum obtained from animals previously injected with small repeated doses of milk.—ED.] Organ therapy may be useful in certain cases, especially in the arterial hypertension sometimes noted in the menopause and which frequently terminates in arteriosclerosis. Ovarian therapy in these circumstances is better than drugs. He considers veratrum viride unreliable or dubious, and rejects also the iodids, theocin and theophyllin, theobromin and ethyl nitrite. He prefers trinitrin (nitrate or trinitrate of glycerin, nitro-glycerin) in progressive doses, two or three drops at a time, three to six or eight times a day until a bearable headache is induced. Tetranitrol (erythrol tetranitrate) in tablets of 1, 2 or 5 mgm. or 1 cg. several times a day until a mild headache is likewise induced. At this moment the dose should be slightly reduced. The vaso-dilating action is nil until the slight headache stage is reached. Given with these precautions there is no fear of toxic accidents, and they can be continued for weeks and months, on condition of suspending them for eight to ten days during the month.

Revue de Gynecologie, Paris.

Last indexed XL, page 161.

28 (VII, 3.) *Le fibro-myome du vagin. G. Potel (Lille).
29 *Combined Intra- and Extra-uterine Twin Pregnancy. H. Bichat (Nancy).—Grossesse gémellaire intra- et extra-uterine combinée.
30 L'opothérapie ovarienne. F. Jayle.
31 *De la perigastrite adhésive. Vautrin (Nancy).
32 Detailed Reports of Sections on Gynecology and Obstetrics at Madrid Congress, General Surgery and Urology.
33 *Indications de l'hystérectomie dans l'infection puerpérale aigue. Pinard (Paris). Address.
34 *Ibid. J. Cortiguera (Santander).
35 Pathogénie et traitement des inflammations chroniques cellulaires et péritoneales de la cavité pelvienne. Doléris (Paris). Address.
36 Ibid. Martin Gil (Malaga).
37 *Chirurgie conservatrice des lesions annexielles. Hector Treub (Amsterdam). Address.
38 *Ibid. Fargas (Barcelona).
39 *Ibid. Gutierrez (Madrid).
40 Des opérations conservatrices dans les ovarites sclérokystiques. A. Bourcier (Bordeaux).
41 Surgery of Stomach. Cardenal (Barcelona).—Les indications de l'intervention chirurgicale dans les maladies de l'estomac. Address.
42 Ibid. A. Ceccherelli (Parma).
43 Ibid. H. Hartmann (Paris).
44 Resultats eloignés de la nephrectomie dans les neoplasmes du rein. J. Albarran (Paris). Address.
45 L'intervention chir. dans les néphrites médicales chroniques. Pousson (Bordeaux).
46 Functional Kidney Tests to Date. A. Hogge (Liège).—Valeur comparative des moyens actuellement à notre disposition pour apprécier l'état fonctionnel du rein. Address.
47 Ibid. J. Albarran.
48 *Résultats cliniques des injections epidurales en urologie. F. Cathelin (Paris).

28. Fibromyoma of Vagina.—Potel has observed 2 cases and collected 160 that have been published. They demonstrate that a fibrous tumor in the vagina, if left to itself, almost inevitably proceeds to ulceration and necrosis with possible serious infection. Death in the fatal cases was due to infection from this cause or hemorrhage.

29. Twin Pregnancy Combined Intra- and Extra-Uterine.—Bichat became interested in this subject from a case of this kind personally observed, and found 49 similar ones in the literature. In only one of the entire number did the mother and both children survive. In 2 others both children survived, but the mother succumbed. In 7 instances, after delivery from a supposed simple pregnancy, a tumor in which movements and a pulse could be observed was discovered in the abdomen, but no attempt was made to open it and the movements and pulse ceased in the course of a few hours to ten days. In the total of 50 cases, 12 came to term; in only 17 was the uterine fetus delivered alive; and the "ectoper" in only 3, as mentioned above. The mother survived in 27, but in the 20 cases of later date than 1880 there were 14 recoveries. The death of the mother was generally due to rupture of the ectopic pregnancy; in 12 the hemorrhage was fulminating before intervention could be attempted; in 7 the mothers succumbed notwithstanding operative treatment—in 4 from hemorrhage and in 3 from septicemia. He reviews the various cases in detail and concludes that treatment should be the same as for a simple ectopic pregnancy, that is, immediate intervention unless near the term. The danger of uterine abortion should not deter from prompt operation. But when first diagnosed near to term, and there are no alarming symptoms, it may be postponed under the closest supervision, with the hope of preserving alive the mother and both fetuses. The mortality for operative treatment has been 30.44 per cent. in 23 cases, while with expectant treatment it was 62.5 per cent. in 24 cases.

31. Perigastritis with Adhesions.—Vautrin's experience and that of others in the 29 cases he has found recorded, indicates that small, partial adhesions accompanying an insignificant gastric lesion may be detached with complete and definite cure. In case they are more numerous and compact, it may be wise to terminate by peritonization of the raw surfaces and resection of the gastric ulcer if one exists. But when the perigastritis has surrounded the stomach with a mass of adhesions and part of the stomach itself is much altered or the pylorus is compressed, or the parts have grown together, gastroenterostomy should be preferred. Whatever method of treatment is followed, the post-operative cure may not be immediate. All surgeons agree in this. After removal of the adhesions some time may elapse before the functions of the stomach are restored to normal. The vomiting may continue for several weeks, but gradually the symptoms subside to complete disappearance in time. The diet should be regulated to restore the chemistry of the stomach to normal.

33-34. Indications for Hysterectomy in Acute Puerperal Infection.—Pinard has performed this operation in 2 cases which were apparently favorable for it, but both patients succumbed. In one an unsuspected streptococcus left pleurisy was discovered and in the other, suppurative phlebitis of the right utero-ovarian veins. He affirms that neither the clinic, bacteriology nor pathologic anatomy are as yet able to afford any reliable indications for hysterectomy in acute puerperal infection.

Cortiguera has found 141 cases on record in which the uterus was removed for this cause. In 68 the patients recovered, in 73 they died. He believes that vigilant prophylaxis will

prevent puerperal infection and that vigorous intrauterine treatment at the proper moment will cure almost every case, but in the few exceptional cases in which these measures prove inadequate, hysterectomy may be done. The cases suggesting this treatment are those in which the infection is localized in the uterus, adnexa or pelvic peritoneum, but peritonitis or generalized infection are not absolute contraindications. Before operating it must be determined that the infection does not originate in the perineum or vagina, that it is not hematogenic with the uterus merely a subsidiary factor, and that the defensive glands, liver and kidney, are intact. Collapse or extreme weakness likewise contraindicate hysterectomy in such cases.

37-39. **Conservative Surgery of the Adnexa.**—Treub's address has been already abstracted. See ¶52, p. 133.

Fargas remarked in the course of his address that preservation of the tubes, without the ovaries, does not respond to any known indications.

Gutierrez regards as incurable the cases of chronic peritoneal and cellular inflammation with sclerosis and a purulent, inaccessible focus or one discharging into the upper portion of the rectum. In cases of recent inflammatory exudate without sclerosis or suppuration, good results may be obtained by promoting absorption, especially by Pincus' method of compression by the weight of a colpeurynter bag filled with mercury or lead, the patient slanting. (Pincus' colpeurynter for this purpose was described in THE JOURNAL of Oct. 4, 1902, p. 868, ¶57.) Thermal baths are also useful. When the exudate displays a tendency to sclerosis and causes constriction of the rectum, with or without a fistula, with serious gastrointestinal disturbances, the subcutaneous or submucous injection of thiosinamin according to Juliuberg's directions for treatment of cheloids and scleroderma, may be advisable.

48. **Epidural Injections in Urology.**—Cathelin's technic has been described recently in these columns, p. 286, ¶38. He now announces that he has cured with it 75 per cent. of all his cases of incontinence and has successfully applied it in all kinds of neuropathies affecting the urinary apparatus, such as night pollutions, impotence, psychopathic pollakiuria, false urethritis, false prostatitis and false cystitis—the "false urinary subjects." The dynamogenic effect has been established beyond question, confirming Cathelin's early assumption in regard to spinal inhibition by nervous traumatisms and shock affecting the roots and spinal cord centers in what he calls the "cone."

Semaine Medicale, Paris.

49 (XXIII, No. 23.) La scariatine latente et son importance épidémiologique. P. Cazlot.
50 Sponge Fishers' Disease. S. Zervos (Athens).—La maladie des pêcheurs d'éponges.
51 (No. 26.) De la dégénérescence cancéreuse de l'ulcère simple de l'estomac. Oettinger.
52 *L'exagération des réflexes tendineux dans l'insuffisance antitoxique. J. Grasset (Montpellier).
53 (No. 27.) L'identité de la lipomatose symétrique douloureuse avec la maladie de Dercum. L. Chelmisse (Montpellier).
54 Le syndrome urinaire dans la scariatine et la diphthérie. R. Labbé.
55 Dacryoadénite blennorrhagique. Etiévant.
56 La compression pubio-manuelle de l'utérus comme moyen de traitement des hémorrhagies après la délivrance. Fochler.
57 (No. 28.) Faut-il écrire Hallex ou Hallus et non Hallux? Dupin.
58 *Fasciculus of Türck. P. Marie and G. Guillain.—Le faisceau de Türck.
59 Le sérum de Trunecek comme moyen de traitement du rheumatisme blennorrhagique. L. Lévi.
60 Un procédé rapide d'extraction de la filaire. Roquemaure.

52. **Exaggeration of Tendon Reflexes in Autointoxication.**—In 12 subjects examined in Grasset's service the exaggeration of the tendon reflexes accompanied unmistakable signs of general intoxication. The number included 2 cases of pregnancy autointoxication, 2 of chlorosis, 3 of Bright's disease, 1 of chronic sclerous nephritis, 1 of subacute nephritis, 1 of biliary lithiasis, one of Laennec's cirrhosis and 1 of typhoid fever. The "antitoxic insufficiency" was evidenced by various symptoms on the part of the nervous system, or of the digestion (vomiting, diarrhea), circulation (hypertension), respiration (dyspnea), kidneys (pollakiuria, albuminuria, edema) or liver (icterus, pruritus). The tendon reflexes were exaggerated in all, sometimes in every limb, sometimes only in the arms. In some this exaggeration of the reflexes paralleled the intoxication in its rise and fall. Grasset attributes it to the contact of the toxic blood with the nerve centers—an exaggeration of the excito-motor power of the nerve centers of autotoxic origin.

58. **Fasciculus of Turck.**—Marie presents numerous arguments, with 21 cuts, to sustain his view that the fasciculus of Türck is what he calls a temporo-protuberantial fasciculus. The most important contingent of fibers is derived from the third temporal convolution. Although he considers that we now have quite correct notions as to its anatomy, its physiology is still a blank.

Archiv f. Allg. Pathologie, Etc. (Virchow's), Berlin.

Last indexed page 138.

61 (CLXXII, 2.) Pus. U. Deganello.—Ueber die Struktur und Granulierung der Zellen des akuten und chronischen Eiters des Menschen.
62 Ueber Lipaemie und Cholesteraemie, sowie über Veränderungen des Pankreas und der Leber bei Diabetes mellitus. B. Fischer (Bonn).
63 *Zur Aetiologie und Biologie der Geschwülste (of tumors). O. Israel.
64 Fall von multiplen Endotheliom der Lymph-Drüsen und Lymph-Bahnen. J. Gallina (Strassburg).
65 *Ein primarer karzinomatoider Tumor (Mesothelioma) der Nebennieren mit sarkomatösen Metastasen. P. G. Woolley (Montreal).
66 *Spinal Angioma. A. Muthmann.—Fall von Gefässgeschwulst der Wirbelsäule.
67 (No. 3.) Ueber Transplantation von Tumoren. Leo Loeb (Montreal).
68 Lymph Channels in Thymus. A. Schambacher (Strasburg).—Ueber die Persistenz von Drüsenkanälen in der Thymus und ihre Beziehung zur Entstehung der Hassallschen Körperchen.
69 Adenomatous Proliferation of Mucosa. R. Meyer.—Ueber adenomatöse Schleimhautwucherungen in der Uterus- und Tuben-Wand, und ihre path.-anat. Bedeutung.
70 *Lymphosarcoma on Mediastinal Portion of the Pleura, Extending Into Spinal Canal. L. Bregman (Warsaw).—Lymphosarkom des Mittelfells mit Uebergang in den Rückgratskanal.
71 Spinal Cord Tumor with Spaces. R. Hadlich.—Fall von Tumor cavernosum des Rückenmarks mit bes. Berücksichtigung der neueren Theorien über die Genese des Cavernoms.
72 Ueber Lymphanglome. K. Sick (Berne).
73 Ciliated Epithelium Cysts in Suprarenal Capsule and in a Pelvic Lymph Gland. Ibid.—Flimmerepithelcysten in der Nebennierenkapsel und in einer Beckenlymphdrüse.
74 Ueber eine Degenerations-Cyste der Nebenniere mit kompensatorischer Hypertrophie. G. Marchetto (Turin).
75 *Shriveling of Suprarenals in Addison's Disease. M. Simmonds.—Ueber Nebennierenschrumpfung bei Morbus Addison.
76 Zur Pathologie des Pankreas bei Diabetes. C. Gutmann (Berlin).
77 Ueber idiopathische Hypertrophie der Esophagus-Muskulatur. Kilicesen.
78 Stain for Elastin. B. Fischer (Bonn).—Weiteres zur Technik der Elastinfärbung.
79 Ueber das Wort "Influenza" und seine medicinische Bedeutung. W. Ebstein.

63. **Etiology and Biology of Tumors.**—In this address at the Madrid Congress Israel discussed the parasitism of tumors and the increase of cell proliferation in tumor formation. He combats the parasitic theory and explains the destructiveness of sarcoma by the great proliferating power of the cells, while in carcinoma the loss of the vitality of the base is the principal factor in the malignant spreading of the neoplasm.

65. **Mesothelioma Malignum Carcinomatoides.**—This is the term coined by Woolley to describe tumors of mesothelial origin. He reports a case, a primary carcinoma of the suprarenals, in a man of 43, accompanied by metastases in right lung, brain and retroperitoneal glands. He adds a review of 21 cases of cancer of the suprarenals of which he has learned.

66. **Spinal Angioma.**—The first symptoms had been noted about two years before death, pains and coldness of the extremities, progressing to paralysis of the legs by the end of the year. The autopsy revealed an angioma at the sixth dorsal vertebra, extending into the spinal canal and below the costal pleura.

70. **Lymphosarcoma on Pleura Extending Into Spinal Canal.**—The tumor was observed on a young woman, and is the third case of the kind on record in which a tumor in the mediastinum had invaded the spinal canal.

75. **Shriveling of Suprarenals in Addison's Disease.**—Besides the 2 cases described by Simmonds, there have been 24 published. Simmonds is inclined to regard this bilateral contraction of the suprarenals as an idiopathic atrophy or the result

of some inflammatory process. He queries whether syphilis may not be incriminated in the etiology.

Berliner Klin. Wochenschrift.

Last indexed XL, page 1791.

80 (No. 22.) Operative Cure of Spinal Paralysis from Compression. J. Israel (Berlin).—Rückenmarkslähmung durch ein Chondro-Sarkom des VI Brustwirbelkörpers. Op. Heilung.

81 Löwit's Corpuscles. P. Recksch.—Ueber die Löwit'schen Körperchen in den Lymphocytenkernen und bei der Myelämie.

82 *Treatment of Chronic Catarrh of Large Intestine. J. Boas.—Zur Behandlung chronischer Dickdarmcatarrhe.

83 Hat die Glykogen-Reaktion der Leukocyten Bedeutung für die Metschnikoff'sche Theorie. S. Kaminer.

84 Diagnosis of Kidney Functions. H. Senator (Berlin).—Die Diagnostik der Krankheiten und der Leistungsfähigkeit der Nieren. (Commenced in No. 21.)

85 (No. 23.) Relations Between Accidents and Neuropathology. P. Schuster.—Unfallheilkunde und Neuropathologie in ihren Wechselbeziehungen.

86 (No. 23.) *Physiologic and Pathologic Significance of Becquerel Rays. E. S. London (Berlin).—Zur Lehre von den Becquerelstrahlen und ihren phys.-path. Bedeutungen.

87 (No. 24.) Metabolism of Uric Acid and Indican in Gout. J. Grossmann (of Senator's clinic).—Zur Kenntniss des Harnsäurestoffwechsels und des Indicans bei Gichtkranken.

88 *Ueber die Behandlung der Prostata-Hypertrophie. L. Casper (Berlin).

89 *Zur Behandlung der Lungen-Tuberkulose. L. Danelius und T. Sommerfeid (Berlin). (Commenced in No. 23.)

90 (No. 25.) *Four Cases of Lysol Poisoning. K. Liepelt.—4 Fälle von Inn. Lysolvergiftungen.

91 *Cancer in Cold-blooded Animals. L. Pick and H. Poll.—Ueber einige bemerkenswerthe Tumorbildungen aus der Thierpathologie, insbes. über gutartige und krebsige Neubildungen bei Kaltblütern.

92 (No. 26.) Mutual Relations in Pathology. Laache (Christiania).—Ueber Wechselbeziehungen in der Pathologie. Address at Madrid Congress.

93 Influence of Ems Waters on Elimination of Uric Acid. W. Laqueur (Ems).—Einfluss der Emser Quellen auf die Harnsäureausscheidung des Menschen.

94 *New Method of Preparing Albuminous Foods. W. Weissbein.—Ueber ein neues Verfahren in der Herstellung von Nahrungsmitteln.

95 *Die Loolnauscheu Lungenheilstätte. F. Aufrecht (Magdeburg).

96 Hay Fever. Dunbar (Hamburg).—See abstract on page 139.

97 *Tryptophan-Reaktion und Magen-Carcinom. K. Glaessner (Berlin).

98 (No. 27.) *The Case of Plague at Berlin. W. Dönitz.—Ueber die im Institut für Infektions-Krankheiten erfolgte Ansteckung mit Pest.

99 Ueber die Beziehungen zwischen cong. Coxa vara und cong. Femur-Defect. M. Reiner.

82. Treatment of Intestinal Catarrh.—Boas criticises von Aldor's communication on this subject, the principal points of which were given in THE JOURNAL of June 27, p. 1791. He thinks that the long tube may simply roll up in the rectum instead of entering the large intestine its entire length, also that injection of as much as three quarts of water may be a dangerous procedure in such conditions. He also wonders why the measure is equally effective in the opposite conditions of constipation and diarrhea, stimulating peristalsis in one case and inhibiting it in the other. He thinks the unmistakable benefit derived must be due to the high temperature of the injections, and this principle has been proclaimed for years by others. Boas places supreme reliance on dietetic measures as a means of curing chronic catarrh of the large intestine, but the "obstipation diet" must be kept up for months to years or recurrence is liable. Aldor, on the other hand, releases his patients from dietary restrictions as he mentions in a reply to Boas in a later number. The latter has established that fluid injected into the rectum with a short tube, the subject reclining, soon finds its way into the cecum and emerges if there is a fistula at this point, consequently a long tube is not needed to flush the bowel.

86. Research with Radium Rays.—London used for all his tests 30 mg. of radium bromid in a rubber and metal box with a mica cover. He found that radium rays are able to kill mice without direct contact. Twenty-one grown mice and 6 controls were placed in glass vessels, 3 or 4 in each, and the box of radium was laid on the cover of the vessels for one to three days. The controls were lively at the end of the fifth day, but the other animals were all dead by this time. The symptoms noticeable about the third day indicated depression of the cerebral nervous system at first, followed by arrest of the functions of the cerebrospinal system in four to nine hours. The most profound anatomic alterations were in the skin and cerebral cortex. He further refers to the fact that if a stick of sealing wax is rubbed with flannel, scraps of tissue paper will cling to it, but he found that if the wax were passed over the radium box after being rubbed the tissue paper was not attracted to it. On the human skin the rays induced a so-called "cold gangrene" in tests on himself and his assistant. The lesions were so peculiar and characteristic that they must be designated as dermatitis radiogenes. He also states that arterial blood became dark colored under the influence of the rays. In his tests on blind subjects he found that they perceived a visual sensation when the radium was applied to their eyes, but this occurred only in those subjects who still retained a certain perception of light. The blind who had never experienced the sensation of light afforded negative or contradictory results. Blind subjects still able to distinguish between light and darkness were able to see in outline dark objects held against the fluorescent screen lighted by the radium rays. Two lads blind from atrophy of the optic nerve were thus able to learn by the silhouettes all the letters of the Russian alphabet and make out entire words. He also states that he found certain persons who were able to tell—by the visual sensation experienced—when the radium was brought close to the back of their heads, but only when approached to a certain point. He suggests that this may possibly be the result of excitation of the visual center at this point by the rays. The visual impression is perceived from the radium rays even when the eyes are closed, bandaged and covered with three or four superposed hands. His concluding statement is to the effect that it is possible to examine articles through the microscope in a dark room with merely the light from a good screen under the influence of the radium rays. His research was conducted at the Institute for Experimental Medicine at Berlin.

88. Treatment of Hypertrophied Prostate.—Casper reviews his experience with 131 patients with enlarged prostates. Four out of 61 cases not operated on were cured; 38 improved; 8 not benefited; 4 grew worse and 7 died. He emphasizes the importance of slow and gradual evacuation of extreme distension of an insufficient bladder. The fluctuation in tension is the most serious factor in the development of cystitis, he believes. Caution is pre-eminently needed in the absence of cystitis. He never resorts to catheterization in such cases unless there is as much as 300 to 400 c.c. of residual urine with a capacity of 500 c.c. He determines the capacity by injecting sterile water followed by 100 to 200 c.c. of silver solution. Of the 51 cases of considerable residual urine 2 were cured; 34 materially improved; 8 not benefited; 4 grew worse and 3 died. The cases of what he calls "prostatismus" were more difficult to treat. He did not use the catheter but applied hot sitz baths, thermophore compresses, soothing or narcotic remedies. Only 2 out of 10 were cured in this category. The effects of prostatectomy through a sectio alta were very serious; 2 died, and although the 2 others recovered, their lives hung by a thread for a time. Threatening heart weakness was observed in all and he regards this operation as too severe for any but younger men with vigorous constitutions. He has had no experience with the perineal operation.

89. New Inhalation Method of Treating Tuberculosis.—Dr. R. Schneider when traveling in Australia was impressed by the benefit derived by the natives in pulmonary affections from the use of a decoction of eucalyptus leaves. A powder has been prepared on this basis and put on the market under the name of Sanosin. It contains the pulverized leaves and oil of the Australian *Eucalyptus citriodora maculata*, flowers of sulphur and charcoal. The powder is burned on an earthenware plate over a small alcohol lamp for twelve to twenty minutes in an ordinary sized room. Danelius has been experimenting with this remedy for six months in private and dispensary practice and has found that tuberculous subjects who remain for one to three hours or all night in a room impregnated with the fumes of the burned powder are very much benefited. The relief in respect to the cough, expectoration, night sweats and appetite is pronounced and has been permanent to date. The fumes do not affect well persons unfavorably and his experience has convinced him that for old chronic bronchial catarrh there is no other treatment able to afford

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such services. None of his patients can be considered cured of their tuberculosis to date but all have been immeasurably relieved. The patients sleep so well afterward that one inquired whether the powder did not contain some narcotic.

90. **Lysol Poisoning.**—One of Liepelt's patients had taken 100 gm. an hour before reaching the physician, and another 50 gm. two hours before. Beside his 4 cases he has found 41 in the literature. Four died out of the 11 in which the poisoning was from external application, and 13 out of the 30 who had taken the lysol internally. Only 3 of the latter 13 fatal cases had been treated by rinsing out the stomach. All the patients who recovered had been treated by rinsing out the stomach and with this he saved also the 2 severe cases first mentioned. He used 22 to 25 quarts of water for the rinsing, continuing it until the escaping fluid no longer smelt of the drug, and supplementing it with large doses of camphor. Consciousness was not regained for four to twelve hours in these cases. In 10 of the fatal cases the lysol had been taken by mistake for some other medicine; in 3 with suicidal intent.

91. **Cancer on Cold-Blooded Animals.**—Pick remarks that malignant tumors, especially carcinomata, have been found on horses, hogs, sheep, cattle, dogs, cats, goats, rats and mice, but he believes that he is the first to publish in a medical journal cases of cancer on cold-blooded animals. He has found a cystoma testis with carcinomatous inclusions on a Japanese giant salamander (*Kryptobranchus japonicus*); a large medullary carcinoma involving the thyroid on the neck of a Brazilian turtle, and gives illustrations of adenomata found on salmon and trout by Miss Plehn and published in a fishery journal. The analogy between the histologic structure of these neoplasms on these cold-blooded creatures and those on man is striking. The localization also corresponds to that on man. He adds cuts of some ulcerative pseudo-tumors found in the stomach of a dog in which specimens of *Spiroptera sanguinolanta* were ensconced. Grassi has found that this round worm completes its life cycle in the cockroach. The latter eats the embryos in dogs' dejecta, and the dog then eats the cockroach. Pick thinks that the ulcerative processes in this case suggest a more intimate connection between intestinal parasites and the mucosa than has been heretofore recognized. His researches to discover malignant neoplasms on birds and fowls have hitherto been fruitless, and he is inclined to believe that the cases reported have been erroneously diagnosed and were in fact tuberculous processes.

94. **New Method of Preparing Albuminous Foods.**—This article refers to a process which allows the complete separation of starch from the albuminous substances. The latter can thus be used separately as a by-product and afford an inexpensive and easily digested food which is being put on the market in the form of flour, macaroni, etc., absolutely free from starch by the most searching tests.

95. **Suggestion for Improved Construction of Hospital Wards.**—Aufrecht has had the sanatorium at Loslau constructed according to his designs and regards the result as a distinct advance. His aim was to secure private rooms for the patients, perfect ventilation and the minimum of expense. This he accomplished by having a large ward partitioned off into a corridor down the center opening into small rooms each side, the partitions reaching only two-thirds of the height of the room. Each of the small rooms has a bed and window, but the ventilation is usually from end to end of the corridor down the center. He has found it perfect. For hospitals he suggests the construction of wards on the same principle, only in the shape of a semicircle with a wide corridor for the base. The partitions should extend from the outer wall part way toward the center, like the spokes of a wheel, thus forming a semicircle of small compartments with a bed against the wall on each side and a window in the middle. The attendant, seated in the semicircular open space, could see every bed in the ward while each two patients would have the privacy of a separate room. In case one of the inmates of a compartment is dying, the other one could be moved out if desired. The ventilation from end to end of the long corridor at the base of the semicircle would be ample to keep the air pure while the patients would not be exposed to any draft. The open semicircular space would also prove a convenient gathering hall for the inmates able to be up.

97. **Protein Chromogen Reaction with Gastric Cancer.**—Glaessner announces that if a scrap of cancer tissue be placed in normal gastric juice the albuminoids are decomposed and the tryptophan (proteino-chromogen) reaction is constant. This does not occur with non-cancerous tissue.

98. **The Case of Laboratory Plague at Berlin.**—In the discussion at the local medical society of Dönitz's report on this subject, Dr. Plehn remarked that his extensive experience in plague countries warranted him in the assertion that the danger of contagion of bubonic plague is very slight. The Europeans in India scarcely ever contract the disease notwithstanding their almost complete lack of care. He thinks there need be no fear of the spread of the plague into an epidemic from isolated cases in Europe. He added that he had never witnessed any conclusive results from serum treatment or prophylaxis. In editorial comment the *Wochenschrift* urges that persons engaged in such laboratory work should be ordered to report daily that their health may be known, and they should always be regarded as "suspects."

Centralblatt f. Bakteriologie u. Inf.-Kr., Jena.

Last indexed page 290.

100 (No. 6.) Ueber ein neues zur Gruppe des Influenza-Bacillus gehöriges hemoglobinophiles Bakterium. E. Friedberger.
101 Ueber ein beim Thier gefundenen Influenza-ähnlichen Bacillus. A. Wolff.
102 Investigation of Water Courses in China. G. Mayer.—Untersuchungen von Wasserläufen in China.
103 Bacteriologic Study of Sweepings of Warships. C. M. Belli (Padua).—Bakt. Untersuchungen über das Kehricht der Kriegsschiffe.
104 Ueber eine Fisch-Epidemie bei Bukarest. V. Babes and P. Riegler.
105 Remarks on Discovery of Parasite of Texas Fever, etc. Ibid. Bemerkungen über die Entdeckung des Parasiten der seuchenhaften Hemoglobinurie des Rindes (Texas Fieber, tristeza, etc.), und des "Carceag" des Schafes.
106 Zur Frage des Ueberganges der Typhus-Agglutinine von der Mutter auf den Fetus. C. Stäubli.
107 Wasser-Untersuchungen und Typhus-Bacillus. H. Bonhoff (Marburg).
108 Die Deykesche Pepsin-Trypsin-Agar ein Nährboden für Diphtherie-Bacillen. B. Bosse.
109 Metal Stopper for Reagent Glasses. F. Gloge (Hamburg).—Ein Metallverschluss für Reagensgläser.

Deutsches Archiv f. Klin. Medizin, Leipsic.

Last indexed page 225.

110 (LXXVI, 4-5.) *Influence of the House on Susceptibility to Tuberculosis. Romberg and G. Haedicke (Marburg).—Einfluss der Wohnung auf die Erkrankung an Tub.
111 Zur Kenntnis der hematogenen Miliar-Tuberkulose der Lungen. K. Sawada (Marburg).
112 *Study of Blood After Splenectomy. R. Staehelin (Basle).—Blutuntersuchungen bei einem Fall von Milzexstirpation.
113 Experimental Research on Phenomena Induced by Rise in Pressure in the Sheath of the Spinal Cord. R. Finkelnburg.—Exp. Untersuchungen über Drucksteigerungen im Rückenmarkssack.
114 *Origin of Spleen Tumor. J. A. Grober (Jena).—Die Entstehung des Milztumors: Hyperplasie oder Hyperemie?
115 Beobachtungen über Amöben-Enteritis. A. Gross (Kiel).
116 *Physikalischen Untersuchungen bei der Anwendung des Magenschlauches (application of stomach tube). P. Schlippe (Heidelberg).
117 Ueber eine in der Universitäts-Klinik entstandene Malaria Haus-Endemie. N. Janeso (Kolozsvar. See editorial page 39.
118 Iron Test. A. Jolles (Vienna).—Zur colorimetrischen Eisenbestimmung.

110. **Influence of the Dwelling on Susceptibility to Tuberculosis.**—See editorial in JOURNAL, Aug. 1, p. 23.

112. **Study of the Blood After Splenectomy.**—The results of careful research in the case described fail to demonstrate any participation of the spleen in the formation of red corpuscles or that it shares to any extent in the production of most of the leucocytes, although it may coöperate in the production of lymphocytes. On the whole, extirpation of a healthy spleen does not seem to affect the blood production or suggest any participation of this organ in the process.

114. **Enlargement of Spleen in Infectious Diseases.**—Grober states that in acute sepsis in mice and in acute miliary tuberculosis in guinea-pigs the enlarged spleen was found to contain much more water than normally. All the inflamed tissues contained an abnormally large proportion of water. He therefore

attributes the enlargement of the spleen in infectious diseases to hyperemia of the organ.

116. **Atmospheric Pressure in Esophagus and Stomach.**—Schlippe states that during inspiration in ordinary conditions the pressure in the esophagus is negative while in the stomach it is positive. In both it is under the influence of the respiration. He found that the lumen of the cervical portion closes during inspiration, and that the cardia sometimes closes but not always.

Deutsche Med. Wochenschrift, Berlin and Leipsic.

119 (XXIX, 25.) Destructive Metabolism of Albuminoids in Hunger. F. Blumenthal (von Leyden's clinic, Berlin).—Zum Abbau der Eiweisskörper im Hunger.
120 Weitere Untersuchungen über Streptococcen. H. Aronson (Charlottenburg).
121 *"Kidney Death." Kidney Insufficiency and Functional Kidney Tests. L. Casper.—Nierentod, Niereninsuffizienz und funktionelle Nierenuntersuchung.
122 60 Cases of Tendon Grafting. Reichard (Magdeburg).—60 Sehnenverpflanzungen.
123 *Affections of Lateral Columns and Spastic Paralysis. M. Rothmann (Berlin).—Seitenstrangerkrankungen und spastische Spinalparalyse. (Commenced in No. 24.)
124 Comment on Report of New York Committee. A. Eulenburg.—"Das soziale Uebel" (evil).
125 (No. 26.) *Experimentelle Beiträge zur Frage der Typhus-Verbreitung durch Butter. Carl Bruck.
126 *Ueber die Symbiose des Influenza-Bacillus. M. Neisser (Frankfurt a. M.).
127 Bacillus of Turtle Tuberculosis. F. T. Friedmann (Berlin).—Der Schildkrötentuberkelbacillus, seine Züchtung, Biologie und Pathogenität.
128 Successful Inoculations of Monkeys with Agent of Ulcus Molle.—E. Tomaszewski.—Impfungen an Affen mit dem Erreger des Ulcus molle.
129 *Tuberkulose und Carcinoma in derselben Familie. E. Aronsohn.
130 (No. 27.) *Prophylaxis of the Plague at Berlin. M. Kirchner.—Die sanitäts-polizeiliche Bekämpfung der Pest. (Commenced in No. 26.)
131 Ueber eine akut aufgetretene trophoneurotische Erkrankung einer ganzen unteren Extremität. E. Grawitz.
132 Ueber die Diagnose der Pentosurie mit dem von mir angegebenen Reagens. M. Bial (Kissingen).
133 Ueber die chirurgische Behandlung des Ascites bei Lebercirrhose. D. G. Zesas (Kiel). One case; successful.
134 Epiphyseolyse mit subkutaner Periosteotomie zur Behandlung des Genu valgum infantum. M. Reiner (Lorenz's ambulatorium, Vienna).

121. **Functional Kidney Tests.**—Casper states that the phloridzin functional test of the kidney allows an exact diagnosis of the location of a kidney affection; it affords information in regard to the composition and functioning capacity of the other kidney not to be obtained in any other way, and makes it possible to avoid the preventable "kidney deaths," and thus materially diminish the mortality from kidney operations. Israel has been denying the reliability of the phloridzin test, and announces that without it he has been successful in all but 5 of his last series of 80 operations on the kidney. These assertions roused Casper to analyze Israel's cases published before this last series, and he unhesitatingly declares that many of the fatalities might have been prevented if the phloridzin test had been known at the time and applied. Out of the 9 "kidney deaths," 4 at least were directly due to the removal of the kidney when the remaining kidney was already fatally compromised. Even in his last series of 80, he had 5 deaths while none occurred in Casper's series of 72 cases operated on after he had determined the functions of the remaining kidney. His record to date is 88 cases operated on by various surgeons and the findings of the tests were confirmed by the operation in every instance. The kidney stated to be diseased by the test was found diseased, and the kidney proclaimed by the test to be sound was found sound, when intervention was undertaken contrary to the findings of the test. Nine of the 88 patients died and the findings confirmed the results of the test in the 7 autopsies that were allowed. None of them could by any possibility be called a "kidney death." In 3 other cases the test showed partial or complete absence of function in the second kidney, and the autopsy later showed contracted kidney in one, amyloid degeneration in one and in the third the absence of a second kidney.

123. **Affections of Lateral Columns and Spastic Paralysis.**—Rothmann comments that nothing hinders more the progress of science than clinging to certain theories when the facts observed no longer sustain them. Such a theory is the acceptance of spastic paralysis as a symptom of an affection of the crossed pyramidal fasciculus or of the posterior or lateral tracts in general. His observations on man and experiments on monkeys have convinced him of the contrary. The cases of true spastic paralysis are so rare that they can scarcely serve as a basis for a definite morbid entity, but if this is accepted, then the affection should be known as "Erb's spastic pseudoparalysis," and the conception of spastic paralysis should be reserved for the spastic, paretic symptom-complex observed in cases of actual paralysis of the legs. The exaggeration of the tendon reflexes and the slight weakness of the extremities are due to the degeneration of the pyramidal tracts. The spastic condition is the consequence of some irritating action on the cells of the anterior cornua, the cause of which has not yet been anatomically established and may be manifold. The degeneration of the pyramidal tracts can at most only afford a predisposition.

125. **Experimental Tests of Dissemination of Typhoid by Butter.**—The experiments reported by Bruck from the Institute for Infectious Diseases demonstrate conclusively that the transmission of typhoid fever may easily occur by means of butter. In some of the tests water in which a cloth slightly soiled with typhoid stool had been washed was used to rinse out the vessels in which the cream was kept. Butter made from the cream developed colonies the first day. The typhoid stool used for the purpose contained only about 16 colonies to a plate. Although not absolutely certain, Bruck believes that the bacilli are liable to be more numerous in the butter than in a corresponding amount of cream or buttermilk. Living bacilli were found in the butter as late as the twenty-seventh day. They seemed to increase in number during the first few days.

126. **Symbiosis of Influenza Bacillus.**—Neisser reports that he has succeeded in cultivating through twenty generations some influenza bacilli, derived from a case of measles conjunctivitis and found associated with xerosis bacilli. The influenza bacilli died out except when this symbiosis with the xerosis bacillus was maintained. He suggests that the latter may modify the medium in some way (blood agar) to render it more favorable for the influenza colonies. He found that the diptheria bacillus will also serve as "nurse," as he calls it, for the influenza germ in this way, but not so successfully as the xerosis bacillus. It is possible, he adds, that symbiosis with certain invisible bacilli may be an important factor in the flourishing of the influenza germ.

129. **Tuberculosis and Cancer in Same Family.**—Aronsohn adds 3 more to his previously published list of 11 families in which cancer and tuberculosis had both occurred, and reports another in which the daughter died from tuberculosis after a course at a sanatorium and the mother exhibited a cancer of the uterus soon after. The father and another child now show symptoms of tuberculosis and one other has hematemesis which suggests malignant disease. Croner's statistics taken from the records of the Victoria Life Insurance Company show tuberculosis in 13.9 per cent. of the families in which cancer has occurred, and tuberculosis in the parents in 22.7 per cent. of the policyholders that have died from cancer. Aronsohn cites these facts as testimony in favor of his assumption that cancer, lupus and tuberculosis all belong to the same family.

130. **The Plague Case at Berlin.**—Kirchner ascribes Dr. Sachs' infection to the following circumstances: The latter was always extremely careful in observing the precautions imposed in the Institute to prevent infection, but one day he aspirated with a Pravaz syringe some of the glandular juice from a bubo on a guinea-pig that exhibited a typical case of experimental plague. He then expelled the juice from the syringe on a plate of agar according to the usual technic, but for some reason the fluid did not issue as usual in a fine stream, but in the form of a spray. The authorities ascribe the infection to inhalation of some of the droplets of this spray, as the incubation from this date corresponded to the accepted period of plague incubation—five days. During the great epidemics of plague in history the physicians kept at a distance from the patients and indicated their orders by a long wand, as the profession afforded many victims until this precaution was observed. Laboratory experiments show that the plague ba-

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cilli die in water in less than two days, and also in the cadaver very early. The danger lies in the patient himself, his linen, dejecta, etc., and the disinfection of the residence afterward is of much less moment than systematic and repeated disinfection at the bedside.

Janus, Amsterdam.

Last indexed XXXIX, page 1647.

135 (VII, 12.) A Great Practitioner of the Sixteenth Century, Petrus Forestus. L. Meunier.—Le hollandais Pierre van Foreest, 1522-1595. (Concluded).

136 Ancient Theory of Nutrition. W. Basler (Tübingen).—Die Theorie der Ernährung nach Ansicht der Alten.

137 History of American Pediatrics Before 1800. A. Jacobi (New York). (Concluded.)

138 *De la névrite retro-bulbaire alcoolique dans l'antiquité. Deneffe.

139 Brief Sketch of History of Medicine in Russia. M. Lachtin.—Kurzer Abriss über die Geschichte der Medicin in Russland.

140 The Cradle and First Ages of Pharmacy. L. Boriani (Bologna).—Le berceau et les premiers ages de la pharmacie.

141 La dernière maladie du comte de Neyperg, 1829. Carbonelli (Turin).

142 (VII, 1.) *Some American Contributions to Development of Modern Therapeutics. S. Baruch (New York).—Einige am. Beiträge zur Entwicklung der modernen Therapie. (Concluded.)

143 The Holmes-Semmelweis Priority Claim. T. v. Györy (Budapest).—Zur Prioritätsfrage Holmes-Semmelweis.

144 *Previous History of Two Physiologic Problems. M. Neuburger.—Zur Vorgeschichte 2 physiol. Probleme.

145 Teaching of History of Medicine in Spain. R. Ulecia.—L'enseignement de l'historie de la médecine en Espagne.

146 (No. 2.) *Plague in Turkey, 1897-1902. C. Stékoulis (Constantinople).—Esquisse sur la peste bubonique en Turquie pendant les cinq dernières années.

147 History of Appearance of Syphilis in Germany. P. Richter.—Beitrag zur Geschichte des Auftretens der Syphilis in Deutschland.

148 (No. 3.) *School of Maritime and Colonial Health at Naples. F. Rho (Naples).—L'enseignement à l'école de santé maritime et coloniale dans l'université de Naples.

149 *Linnæus as Physician. W. Ebstein (Göttingen).—Carl v. Linné als Arzt.

150 Jean F. X. Pugnet (medical officer under Napoleon). H. Gros.

151 Side Lights on Florentine Academy and the Anatomic Drawings of Vesalius. R. v. Töply (Vienna).—Aus der Renaissance-Zeit, etc.

152 Experimenta Magistri Gilliberti, Cancellarii Montispessulani. P. Pansier. (Published for first time from manuscript.) (Concluded.)

153 History of the Evolution of the Theory of Gases. F. Strunz.—Beitrag zur Klarstellung der Naturwissenschaft des Johann Baptist van Helmont, 1577-1644. (Concluded.)

138. Alcoholic Retrobulbar Neuritis in Antiquity.—Deneffe cites one of Martial's epigrams (No. 78, Sixth Book) to show that the deleterious action of alcohol on the eyes was known at that date, 54 to 98 A. D. Phryx, a hard drinker, warned by his physician that he would lose the sight of his one eye if he continued to drink, exclaimed: "Farewell, eye," and continued his alcoholic excesses. "Phryx drank the wine and his eye the poison, with the result that he became totally blind."

142. American Contributions to Development of Modern Therapeutics.—Baruch quotes, among other interesting matter, Oliver Wendell Holmes' writing in 1843 in regard to the infectiousness of child-bed fever, and compares his statements with those of Semmelweis who proclaimed the same idea in Germany in 1847, independently of the American. Both met with ridicule and opposition from their contemporaries at first, but conviction soon followed, and energetic antiseptic measures were then adopted. Baruch himself was the first to denounce the latter which were being enthusiastically advocated by Gaillard Thomas at that time, 1884. Fordyce Barker supported him and at a symposium on the subject, summoned by the latter, Thomas receded from his position and this change of views banished strong antiseptic vaginal douches from obstetric practice.

144. Early History of Two Physiologic Problems.—The relations between the nervous system and nutrition, and the internal secretions of the organs, are the two problems referred to. Each was discussed in scientific gatherings as early as the seventeenth century, and Neuburger relates some of the curious ideas advanced on the subject and recorded in the transactions.

146. Plague in Turkey.—Stékoulis states that the plague has existed in Assyria but strictly localized, since 1826, but Turkey has been free except for a small epidemic in 1885 near Bagdad. In 1897 it appeared at Djeddah and since then occasional cases have occurred at various points, including Constantinople, but the number of cases has not surpassed 471 with 338 deaths. All but 101 occurred at Djeddah or Yambo. With the exception of the old localized endemic in Assyria, the plague cases never caused wide contagion, and although the disease clinically is the same as in the days of the "black plague," yet epidemiologically it has nothing in common with it. If it were not for its traditional name, he concludes, the populace would be less alarmed at the progress of the plague and sanitary measures might be modified in accordance with the teachings of modern science.

148. Maritime and Colonial Medical School at Naples.—Rho states that over four millions of Italians live outside of Italy. A million and a half are settled in Brazil and half of these pursue agricultural occupations. Emigration has been constantly increasing during the last thirty years, and now surpasses that from any other country. During the first half of 1902, 354,000 emigrants left Italy, 148,000 permanently. The majority, however, go from one country to another in search of work and frequently return to Italy, so that the temporary emigration is always larger than the permanent, and the population of the country still keeps on increasing. A law has been in force for about a year which regulates the emigration and guards the poorer emigrants both morally and physically. The emigrant ships are obliged to carry a naval medical officer as a government medical official, and if the emigrants number more than 700, a civilian physician accompanies him. The naval medical officers are trained in climatology and tropical pathology, naval hygiene and the pathology of the ports to which the ships are destined. Chairs of tropical pathology and naval hygiene have been founded at Naples and placed in charge of Rho and Pasquale, both upper medical officers in the royal navy. A special school for tropical diseases has also been founded, in charge of Giaxa and four other professors, and a hospital for returning emigrants. The school has already 37 young physicians as students who are fitting themselves for this maritime service, or its branches in the seaports.

149. Linnaeus as a Physician.—Ebstein refers to Hektoen's article on this subject in THE JOURNAL of Sept. 13, 1902, but has had access to other sources of information and supplies some further details. Two portraits of the great botanist accompany the article.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles on Medicine, Neurology, Surgery, Therapeutics, Obstetrics, Pediatrics, Pathology, Dermatology, Diseases of the Eye, Ear, Nose and Throat, and Other Topics of Interest to Students and Practitioners by Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A., with the Collaboration of John B. Murphy, M.D., Chicago; Alexander D. Blackader, M.D., Montreal; H. C. Wood, M.D., Philadelphia; T. M. Rotch, M.D., Boston; E. Landolt, M.D., Paris; Thomas G. Morton, M.D., Philadelphia; James J. Walsh, M.D., New York; J. W. Ballantyne, M.D., Edinburgh, and John Harold, M.D., London; with Regular Correspondents in Montreal, London, Paris, Leipsic and Vienna. Volume II. Thirteenth Series. Cloth. Pp. 311. Price, $2.00. Philadelphia and London: J. B. Lippincott Company.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post Graduate Medical School. Volume VI, General Medicine. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, M.D., Professor of Medicine, Chicago Clinical School. May, 1903. Volume VII, Pediatrics. Edited by Isaac A. Abt, M.D., Assistant Professor of Medicine (Pediatrics Department), Rush Medical College. Orthopedic Surgery. Edited by John Ridlon, A.M., M.D., Professor of Orthopedic Surgery, Northwestern University Medical School. June, 1903. Cloth. Pp. 312 and 232 Respectively. Price, $1.50 and $1.25. Chicago: The Year Book Publishers.

MICROSCOPY AND BACTERIOLOGY. A Manual for Students and Practitioners. By P. E. Archinard, A.M., M.D., Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Series Edited by V. C. Pedersen, A.M., M.D.,

Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital. Illustrated with 74 Engravings. Cloth. Pp. 210. Philadelphia and New York: Lea Brothers & Co.

DISEASES AND INJURIES OF THE EYE, with Their Medical and Surgical Treatment. By George Lawson, F.R.C.S. Eng., Surgeon-Oculist-in-Ordinary to Her Majesty, the Late Queen Victoria. Sixth Edition, with 249 Illustrations. Revised and, in Great Measure, Rewritten. By Arnold Lawson, F.R.C.S. Eng., Assistant Surgeon to the Royal London Ophthalmic Hospital. Cloth. Pp. 587. Price, about $5. London: Smith, Elder & Co. 1903.

MEDICAL JURISPRUDENCE. A Manual for Students and Practitioners. By Edwin Welles Dwight, M.D., Instructor in Legal Medicine, Harvard University. Series Edited by V. C. Pedersen, A.M., M.D., Instructor in Surgery and Assistant Anesthetist at the New York Polyclinic Medical School and Hospital. Cloth. Pp. 249. Philadelphia and New York: Lea Brothers & Co.

FIRST PRINCIPLES OF OROLOGY. A Text-Book for Medical Students. By Albert H. Buck, M.D., New York City, Clinical Professor of the Diseases of the Ear, College of Physicians and Surgeons. Second Edition. Cloth. Pp. 216. Price, $1.50 net. New York: Wm. Wood & Co. 1903.

DEPARTMENT OF THE INTERIOR. Bureau of Government Laboratories. Biological Laboratory. A Preliminary Report on Trypanosomiasis of Horses in the Philippine Islands. By W. E. Musgrave, M.D., and Norman E. Williamson. Paper. Pp. 26. Manila Bureau of Public Printing. 1903.

GYNECOLOGY. A Text-Book for Students and a Guide for Practitioners. By William R. Pryor, M.D., Professor of Gynecology in the New York Polyclinic Medical School. 163 Illustrations in the Text. Cloth. Pp. 380. Price, $3.50. New York and London: D. Appleton & Co. 1903.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Volume XV. Fifteenth Session, Held at Cincinnati, Ohio, Nov. 11, 12 and 13, 1902. Edited by W. D. Haggard, M.D. Cloth. Pp. 444. Published by the Association. 1903.

REPORT OF WORKING PARTY NO. 1, YELLOW FEVER INSTITUTE. A Study of the Etiology of Yellow Fever. By Herman B. Parker, George E. Beyer and O. L. Pothier. March, 1903. Paper. Washington: Government Printing Office. 1903.

MY CHILD AND I. In Sickness and Health from Pre-natal Life Until Sixteen. By Mrs. F. L. S. Aldrich, M.D., Member of the American Medical Association. Cloth. Pp. 429. Price, $1.50. Philadelphia: P. W. Ziegler & Co. 1903.

THE ANNUAL REPORT OF THE DEPARTMENT OF THE INSANE OF THE PENNSYLVANIA HOSPITAL, for the Year Ending April 23, 1903. Paper. Pp. 37. Philadelphia. 1903.

HYGIENIC LABORATORY BULLETIN NO. 9. Presence of Tetanus in Commercial Gelatin. By John F. Anderson. Paper. Pp. 6. Washington: Government Printing Office. 1902.

The Public Service.

Army Changes.

Movements of Officers of the Medical Department, U. S. A., under orders from the Adjutant-General's Office, Washington, D. C., for the week ending Saturday, July 18, 1903:

Bushnell, George E., major-surgeon, is relieved from duty at Fort Logan, and will proceed to Fort Bayard and report at the U. S. General Hospital at that place for duty.

Crosby, William D., major-surgeon, is granted leave for one month.

Parkham, Wallace E., contract surgeon, granted leave until June 2, is granted an extension for one month.

Ten Eyck, Benjamin L., major-surgeon, is directed to report to Major-General John C. Bates, president of the Army Retiring Board, at Chicago, Ill., for examination by the board. On the completion of his examination, Major Ten Eyck will return to his proper station.

Trenholtz, Clarence A., contract surgeon, is relieved from further duty in the Department of the Columbia and, on the expiration of his present leave, will proceed to Fort Apache for duty.

Navy Changes.

Changes in the Medical Corps of the Navy for the week ended July 25, 1903:

Medical Director J. C. Boyd, commissioned medical director, with rank of captain, from June 20, 1903.

Surgeon E. O. Huntington, detached from the *Maine* and ordered to the Naval Hospital, Navy Yard, New York, for treatment.

Surgeons R. K. Smith, A. W. Dunbar, A. Farenholt, C. P. Bagg, E. J. Grow, M. S. Elliott, commissioned surgeons, with the rank of lieutenant-commander, from March 3, 1903.

P. A. Surgeon R. W. Plummer, ordered to the *Maine*.

Asst.-Surgeons C. E. Ryder and J. A. Randall, appointed asst.-surgeons, with rank of lieutenant, junior grade, from June 26, 1903.

Surgeon C. P. Kindleberger, ordered to the *Independence*.

Asst.-Surgeon A. Stuart, granted sick leave for two months.

Surgeon G. P. Lumsden, detached from the Naval Station, Port Royal, S. C., August 1, and ordered to the Torpedo Station, Newport, R. I.

Surgeon R. M. Kennedy, detached from the Torpedo Station, Newport, R. I., and ordered to the *Dixie*.

A. A. Surgeons A. H. Wise and C. T. Grayson, appointed acting asst.-surgeons, with rank of lieutenant, junior grade, from July 14, 1903.

A. A. Surgeon P. L. Cocke, detached from the *Chesapeake* and ordered to the Naval Hospital, New York, for treatment.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended July 23, 1903:

Assistant Surgeon-General A. H. Glennan, to proceed to Reedy Island quarantine for special temporary duty.

Assistant Surgeon-General L. D. Williams, granted leave of absence for seven days from July 18.

Surgeon J. H. White, granted extension of leave of absence for one month from August 2.

P. A. Surgeon E. K. Sprague, granted leave of absence for ten days from July 22.

P. A. Surgeon Taliaferro Clark, granted extension of leave of absence for fourteen days from July 20.

P. A. Surgeon H. R. Parker, to report to Assistant Surgeon-General H. D. Geddings for temporary duty.

A. A. Surgeon B. F. Duke, granted leave of absence for two days.

A. A. Surgeon S. C. Leonhardt, granted leave of absence for thirty days from September 1.

Pharmacist C. W. Stephenson, granted leave of absence for twenty-three days from August 3.

Pharmacist G. W. Iltis, granted leave of absence for seven days from July 15, 1903, under paragraph 191 of the Regulations.

RESIGNATION.

A. A. Surgeon S. C. Leonhardt, resigned, to take effect Oct. 1, 1903.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended July 24, 1903:

SMALLPOX—UNITED STATES.

Colorado: Denver, June 18-July 11, 15 cases.
Illinois: Chicago, July 11-18, 1 case; Danville, July 11-18, 1 case.
Indiana: Indianapolis, July 11-18, 1 case.
Louisiana: New Orleans, July 11-18, 3 cases.
Massachusetts: Fall River, July 11-18, 9 cases.
Michigan: Detroit, July 11-18, 3 cases; Port Huron, July 11-18, 2 cases.
Mississippi: Natchez, July 4-11, 1 case.
Missouri: St. Louis, July 4-11, 6 cases.
Nebraska: South Omaha, June 1-30, 6 cases.
New Hampshire: Manchester, July 11-18, 2 cases.
Pennsylvania: Carbondale, July 14-21, 1 case; Philadelphia, July 11-18, 24 cases, 14 deaths; Pittsburg, July 11-18, 29 cases, 8 deaths; Norristown, July 11-18, 1 case.
Ohio: Cincinnati, July 10-17, 4 cases; Cleveland, July 11-18, 1 case.
South Carolina: Charleston, July 11-18, 6 cases, 2 deaths.
Wisconsin: Milwaukee, July 11-18, 2 cases.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, June 20-July 4, 5 cases.
Belgium: Antwerp, June 27-July 4, 7 cases, 4 deaths; Brussels, June 27-July 4, 5 deaths; Ghent, June 20-July 4, 3 deaths.
Canada: Winnipeg, July 11-18, 1 case.
China: Hongkong, May 23-30, 1 death; Shanghai, June 6-13, 1 death.
Colombia: Bocas del Toro, June 30-July 7, 2 cases, 1 death.
Great Britain: Birmingham, July 4-11, 1 case; Dublin, June 27-July 4, 9 cases, 1 death; Leeds, July 4-11, 7 cases, 1 death; Liverpool, to July 11, 44 cases, 3 deaths; London, July 4-11, 4 cases; Manchester, June 27-July 4, 9 cases; Newcastle-on-Tyne, June 27-July 4, 1 case; Nottingham, June 27-July 4, 2 cases.
India: Bombay, June 16-23, 21 deaths; Calcutta, July 13-20, 4 deaths; Madras, July 13-19, 1 death.
Japan: Formosa, April 1-May 31, 7 cases.
Mexico: City of Mexico, June 28-July 5, 7 cases, 3 deaths.
Russia: Moscow, June 20-27, 3 cases; Riga, April 1-30, 28 deaths; St. Petersburg, June 27-July 4, 18 cases, 1 death; Warsaw, June 13-27, 6 deaths.
Spain: Barcelona, June 20-July 4, 4 deaths.
Turkey: Smyrna, May 24-June 14, 3 deaths.

SMALLPOX—INSULAR.

Philippines: Manila, May 16-June 13, 13 cases, 9 deaths.

YELLOW FEVER.

Colombia: Panama, July 6-13, 3 cases, 1 death.
Costa Rica: Limon, July 2-9, 3 cases, 2 deaths.
Mexico: Cardenas, July 10, 1 death, imported from Tampico; Coatzacoalcos, June 27-July 4, 2 cases, 4 deaths; Merida, July 12, present; Progreso, July 12, present; Tampico, June 27-July 11, 61 deaths; Vera Cruz, June 27-July 11, 64 cases, 21 deaths.

CHOLERA—INSULAR.

Philippines: Manila, May 16-June 13, 127 cases, 112 deaths; Provinces, May 16-June 13, 2,463 cases, 1,718 deaths.

CHOLERA—FOREIGN.

India: Calcutta, June 13-20, 34 deaths, sporadic.
Straits Settlements: Singapore, May 30-June 6, 1 death.
Turkey in Asia: Beytarie, June 6-13, 26 cases, 23 deaths; Kara, June 8-14, 13 cases.

PLAGUE—INSULAR.

Hawaii: Honolulu, June 24-25, 2 deaths.
Philippines: Manila, May 16-June 13, 19 cases, 19 deaths.

PLAGUE—FOREIGN.

Africa: Cape Colony, May 17-30, 19 cases; Natal, May 10-16, 5 cases.
China: Amoy, May 8-June 13, 525 cases.
India: Bombay, June 16-23, 92 deaths; Calcutta, June 13-20, 31 deaths; Mauritius, June 11-18, 2 cases.